OBSERVATIONS ON MODERNITY

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Preface

The proclamation of the "postmodern" has at least one virtue. It has clarified that contemporary society has lost faith in the correctness of its self-description. There are other possibilities, but they, too, have become contingent. As in the hazardous world of the New York subway system, those who want to talk about such things congregate in clearly marked places under bright lights and cameras. We seem to be dealing with a matter of intellectual survival. But apparently this is all we are dealing with. In the meantime, what happens, happens, and society evolves toward an unknown future, leaving behind its accomplishments.

Perhaps the concept of the postmodern promised merely another, more varied description of the modern, which can imagine its own unity only in the negative terms of a *métarécit* (metanarrative). But this view might, on the other hand, allow for too much, given the many contemporary exigencies that come to mind. We would gladly concede that there is no such thing as a binding representation of a society within that society. But that concession would be not the end but rather the beginning of a reflection on the form of such a system's own self-observations and self-descriptions. These must be submitted within the system in a process that must in turn be observed and described.

The following texts are based on the conviction that something can be said about this topic of observing modernity; even that a body

of theory is already available that needs only to be pointed toward the topic. The title *Observations on Modernity* is deliberately ambiguous. We are concerned with observing contemporary society through contemporary society. There is no *métarécit* because there are no external observers. Whenever we use communication—and how could it be otherwise—we are already operating within society. But this situation brings with it unique structures and consequences that must be clarified. The following investigation is unified by the search for such clarification.

What follows are revisions of lectures that I initially presented without a written or fixed text. I spoke on the topic "Modernity in Contemporary Society" at the Conference of Sociologists in Frankfurt in 1990. The present version is only slightly different from that published in the conference proceedings. "European Rationality" was the theme of a talk I gave at a conference called "Reason and Imagination," held in Melbourne in August 1991 and sponsored by the publishers of the periodical *Thesis Eleven*. I suspect that there was no intent to alter world events. At the same time the Monash University had invited me to participate in a forum with Agnes Heller; my contribution corresponded to the title of this forum, "Contingency and Modernity." The impetus for the lecture "Describing the Future" was the founding of a research institute in February 1991 in Leece, which is supposed to examine the complex problems of southern Italy. The final essay, "The Ecology of Ignorance," sketches prospective research areas for contributors who have yet to be identified.

I have allowed any overlaps of content to remain. They can serve to clarify relationships that do not easily fit into hierarchic or linear representations.

N. L.

OBSERVATIONS ON MODERNITY

CHAPTER 1

Modernity in Contemporary Society

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I

I would like to start my analysis of modernity in contemporary society by making a distinction between social structure and semantics. My preference for such a beginning, a preference that cannot be justified at the outset, is based on a confusing characteristic of this distinction, namely that it is self-contained. It is itself a semantic distinction, just as the distinction between operation and observation, from which it comes, is itself the distinction of an observer. I must leave it with the simple statement that this logical form is the foundation of productive analyses that can resolve their own paradoxes.[1] In addition, this point of departure already contains at its core the future theory of modernity. This analysis does not begin with the recognition of tried laws of nature, nor with principles of reason, nor with predetermined or incontrovertible facts. It begins with a paradox that can be solved one way or another, provided one is willing to reduce infinite to finite information loads. This analysis therefore claims for itself the characteristics of its object of study: modernity.

If we begin with the distinction between social structures and semantics, then the sociologist will remark that the discourse on mo-

dernity is most often conducted on a semantic level.[2] Given that the discussion of "capitalistic society" is in need of clarification, and that, owing to its general nature, the discussion on "differentiation" is stagnant, we remain without adequate structural descriptions of the characteristics of modernity. The current popularity of the concept of modernity is to be ascribed to a shift in emphasis from economy to culture, which is itself still in need of explanation. In attempts to characterize modernity, features are employed that originate from the repertoire of societal self-descriptions. This is true, for example, of the association of the concept of modernity with the conceptual world of the rational Enlightenment. It is equally correct to believe that the modernity of society is determined by the meaning it assigns to the self-determining individual. There are many disappointments in both cases. Jacques Derrida has recently spoken of a "taste for the end if not for the death" of this "traditional discourse of modernity."[3] The description of modernity is just as carelessly applied to postmodernity. This changes our view of the future. Traditional modernity, shall we say, projected the fulfillment of its promise upon the future, thereby avoiding all the problems of society's self-observation and self-description by means of the future's "not yet." The discourse on postmodernity is a discourse without a future. And here we must solve the same paradoxical problem in which the system is described within the system (that is, the description that describes itself) differently. This occurs, as we shall see, in the form of pluralism, if not in the form of "anything goes."

Purely historical conceptual analyses, as erudite as they may be, do not go substantially beyond this position. This holds true even when, along with Quentin Skinner, we refer to social and political situations that should be approached with the innovative use of concepts;[4] and so too, if we, along with Otto Brunner, Joachim Ritter, or Reinhart Koselleck, interpret changes of conceptual usage or conceptual invention from the standpoint of sociohistoric shifts.[5] For the sociologist's taste, all this is grounded in concepts of society that are far too pointillistic (in the case of Skinner) or far too broad (in the case of Brunner, Ritter, and Koselleck).

We can easily recognize the rhetorical use of antiquity and the

Middle Ages in the history of the term *modernus*. Here the distinction *antiqui* and *moderni* only served to distribute praise and scorn, the distribution being left to the author and his rhetorical intent. It is well known that this had changed by the seventeenth century because of printing and the more pronounced recognition of societal change. Since then the distinction has been applied, predominantly by the arts and sciences, to society or, more importantly, to its components. But does this really say anything more than that a society that calls itself "modern" tries to solve the problems of self-description by means of a time line? It barely understands itself, and so it marks its newness by relegating the old, thereby covering up its own embarrassment at not really knowing what is going on.

When contemporary society calls itself "modern," it identifies itself with the help of a differentiation from the past. It identifies itself in a temporal dimension. This is nothing particularly special at first glance. All autopoietic systems, even, for example, the consciousness of the self, can only construct identity with constant allusions to their own past. This means that self-reference and external reference must be differentiated.[6] This retrospection is achieved not through identification but rather through disidentification, through difference. Whether we like it or not, we are no longer what we were, and we will not be what we are now. This spoils all the distinctions of modernity, because here, too, it holds true that the characteristics of today's modernity are not those of yesterday and not those of tomorrow, and in this lies modernity.[7] The problems of contemporary society are not problems in maintaining a heritage, whether in education or elsewhere. Much more important is the constant creation of otherness. However, we need criteria of this otherness not yet determined by nonidentity. And we also require a higher level of identity of the nonidentical. And so we continue to fall back on humanity or reason, but no longer in a natural understanding of the tradition, in a distinction between humans and apes and snakes, but in a weakened sense of values that allows us to condemn the other.

We can easily see, based on the utilization of such ideas, that they are ill-suited to pass judgment on contemporary society or to describe it in a way that is appropriate to its complexity. The semantic

apparatus of Old Europe is no longer taken for granted as the common foundation of education. But people are reluctant to do away with it as well. The time span separating us from tradition is undisputed and unacceptable. It would have to be determined in what ways contemporary society is structurally and semantically different from its predecessors. But this would require a social theory that could determine in what sense these historical differences distinguish systems that are in many ways similar if not identical, that is to say, that are social systems.

Sociology has, with the exception of sociologically oriented authors, played only a small role in the discussion of the criteria of modernity. This can be seen in a comparison of literature and the plastic arts. We understand modernity to be a release of individuality and a search for (or despair of) an authenticity made possible by this foundation. This impulse toward modernity runs so deep that the reciprocity between art production and art theory would be unthinkable without it.[8]

Sociology has achieved little in comparison to the intensity with which hope and need, the avant-garde and survivalism are experienced and portrayed, and in comparison to the way contemporary society attempts to describe itself in this regard. Unable to speak of concepts, the terminology sociology produces carries signs of a forced one-sidedness. Here we need only think of such terms as "society of risk" or "information society." What is missing, not considering old topics such as differentiation and complexity, is a concept of structural characteristics that distinguishes contemporary society from older social formations in the long term and not just in the moment.

Given its rich tradition of knowledge, sociology cannot forgo an analysis of the relationship between social structure and semantics. Continuity on the level of sociostructural development (capital economy, state-organized politics, research designed to change a body of knowledge, mass media, exclusively positivistic law, education of the entire populace in schools, etc.—all specifically modern phenomena) is indeterminable. Only the exploitation of the inherent chances and the realization of their resulting problems are increasing. Only in the description of these phenomena and the inherent ambitions

and risks can discontinuities exist. Given sociostructural evolution, this is a discontinuity that is at the same time a terrible discontinuity of semantics. What is lacking is a theory adequate for such a state of affairs, a semantics of the relationships between structure and semantics, a theory of self-description of a society that reproduces itself via structure.[9] Perhaps the most interesting suggestion is (at the time of the Sociologists Conference in 1990) the latest publication of Anthony Giddens.[10] Giddens sees the characteristic of modernity in a "time-space-distanciation." The reciprocal ties between time and space are decreasing, are becoming contingent; that is, they are based on agreements. This change has global effects on the entire range of action by means of the "reflexive monitoring of action," that is, by way of the recursive networking of action determinants in other actions or possible actions, their circumstances, and their consequences. Life is less and less determined by local environments. The consequences of this must affect structures and semantics. It is uncertain what factors induce this distanciation of time and space.[11] We are lacking an even somewhat adequate social theory that is not modern in the sense that it is already yesterday's theory tomorrow.

This deficit may be attributable primarily to methodology. Sociology considers itself primarily an empirical science but then takes the term "empirical" very narrowly as its own collection and evaluation of data, that is, as an interpretation of a self-created reality. The possibility of variably describing unchallenged facts with various theories and other distinctions is left unconsidered. This method, which presupposes a significant degree of technical knowledge of theory, could be more productive for our topic.

I suggest applying this method of theory variation to some examples.

II

A prominent place in sociology's descriptions of contemporary society has been occupied by Karl Marx's critique of the capitalistic economic system. This might surprise some, given numerous anachronisms, and might seem more akin to a raising of the dead. It would

hardly seem desirable to revive the muscular metaphysics of materialism. The humanistic malnourishment of Marxist terminology seems problematic today, if not as a sociopolitical idea then at least in its empirical referentiality. Take, for example, "alienation." If we view this term sociologically, not anthropologically, we define it as the capital management of the industrial as well as the political economy. This reflects the ability to calculate materiel, credit, and labor costs, and thereby to determine within the industrial and national means of calculation which enterprises are profitable and which are not.

Obviously, what is not taken into consideration is that materiel and people "work" in completely different ways. Equally obviously, the meaning of work for the worker is discounted. And finally, there is obviously no other means for calculating economic value if work is rewarded with capital or with other economically important services. This assumes that workers live at the expense of the economy.

This is, then, an example of a functionally necessary "nonobservance." We must understand Husserl's critique of the "Galileic" style of economy in the same sense.[12] Here, too, we are concerned with disregarding the concrete achievements of consciousness, which give meaning to each individual subject, including the discrepancy in perspective between technology and human individuality.

The parallels between Marx and Husserl can be made clear only if we start with an abstract concept of technology. We are not concerned here with machines with mechanical or electronic applications. We are not even concerned with effects aimed at simple manufacturing. Such concepts of causal technology would run aground, as they did once before in Starnberg's finalization debate on the criticism of aims and in the demand for the substitution of other aims. This in no way concerns a politically feasible critique of society in this sense. Technology, in its broader sense, is *functional simplification*, that is, a form of the reduction of complexity that can be constructed and realized even though the world and the society where this takes place is unknown. It is self-assessing. The emancipation of individuals, even irrational individuals, is an unavoidable side effect of this technologizing.

Only such a broad definition of technology can make good on the claim to contributing to the self-description of contemporary society. It clarifies the marginalization of respect and retrospect. It likewise characterizes the disregard of the psychology of the individual and ecological effects. It clarifies the technological aspects of science and does so independently of the application of scientific knowledge in processes of production.[13] It explains the fact that contemporary society tends toward humanistic and ecological self-critique, but also that, in a reaction against this tendency, it can only respond technologically, for example, by expressing humanistic and ecological problems as financial problems.

This changes the social imperatives for individuality. The question is no longer "What should I be?" but rather "How should I be?" Whenever the individual is marginalized by technology in this way, a sense of distance is achieved that allows the individual to observe its own observation. It no longer knows only itself. It no longer characterizes only itself with names, body, and social status. In all this it acquires a sense of insecurity. And in its place it acquires the means to make observations of the second order. An individual in the modern sense is someone who can observe his or her own observing. And whoever fails to understand this intuitively or is not made aware of this by his or her therapist can read novels and project them onto the self—as "uno, nessuno, e centomila."[14]

This diagnosis should not be too quickly labeled as pessimistic. It can also be taken as an allusion to the prospect of trying new combinations, new differentiations, for which functional simplification remains an indispensable prerequisite.

III

The emphasis on the tandem of technology and individuality, with which we proceed into the fog of the future, need not remain the sole description of modernity. This simplification can be avoided. We can determine other characteristics, given an adequately coherent design of theory. Here, too, the establishment of a non-Marxist Marx could be employed as a starting point.

What remains remarkable about the Marxist critique of the political economies of its day is the shift of a knowledge previously justified through nature to a social context. The economic order of capitalism does not, according to Marx, follow a natural economic action with an innate trend toward individual and collective rationality. It is, rather, a social construct. The reference to nature is presented as "reification"; that is, it is analyzed as a moment of social construction. Economic theory's claim to represent an extrasocial objectivity is contested. It only reflects the logic of a social construct.

Even if we give up everything else, we should keep this and proceed with Marx. This thesis is so omnipresent in the empirical cognitive sciences of the second half of this century that it ceases to be a specifically economic phenomenon or a special-interest ideology. Every cognition is construction *as cognition*. It is questionable whether economic theory serves the "interests" of capitalists as a social class. Equally questionable is the newer version that states that the phony objectivity of economic theory really serves to cover up the true power relationships mediated by state and law. At this level the argument can be countered by asking which interests it would serve if basic concepts and future perspectives were left unclear. Such controversies can be either continued or discontinued. We should not abandon the basic realization, however, that capitalistic economy is founded not on an extrasocial objectivity but rather on itself, and that all references to interests, needs, necessities, or advantages of rationality are *internal* references to *external* situations. They are therefore dependent and remain dependent on the logic of capital economies.

This is evidently true for the newer discussion of transaction costs and their minimization started by Ronald Coase,[15] with reference to the problem of the externalization of costs as a prerequisite to profitability calculations, the use of an imprecise concept of opportunity costs in the context of risk calculations,[16] and many similar aspects. The same insight is formulated with regard to other functions systems. Referring to the sciences, Steve Fuller states, "Reference fixing is a *social fact*, as in the case of a contract or a promise."[17]

Even if we are content today to justify capitalistic economies in

terms of success rather than nature, the main argument of Marxist analysis that sets it apart from other economic theories remains, namely that the economy conceives its own self-description, represents itself in its own theory, and from this regulates internal and external references. The disaster of the socialist planned economy only teaches us that there are no exceptions. The proletariat revolution has shown in an extremely huge and costly experiment that there is no way to return to more humane circumstances. Whether Marx foresaw this revolution as a materialistically based parallel action to the Hegelian spirit, whether it was obligatory, dialectic or not, or connected to the consciousness-raising activities of the elite, is immaterial. Whatever is economic can be determined only within the economy. If politics wants to be informed, then it has to let the economy work. Otherwise it can see only the reflection of whether its own economic plans have been accomplished or not and is then left to determine causes and place blame.

IV

One of the most important criticisms of Marxist social theory is that it overestimates the economy and in doing so, as we can see today, underestimates it. The watered-down versions of Antonio Gramsci or Louis Althusser have not changed this in the least. In the definition of society as a whole in economic terms, what is lacking is a sufficient appreciation of the inherent dynamics of the economy and its effects on other functional areas and the ecological conditions of social evolution. What is lacking above all is a sufficient appreciation for parallel phenomena in different functional areas. Missing is a basis for comparing systems and for distilling abstract characteristics of modernity, which can be found in more or less all functions systems. I would like to demonstrate this by way of a fundamental problem in which structural conditions and semantic consequences come together.

If we describe contemporary society structurally according to sociological tradition as a functionally differentiated system, then it follows that the differentiated functions systems, having become au-

tonomous, distinguish themselves from their surroundings (both intrasocial and extrasocial). Such distinctions are accomplished operatively by the simple continuation of their own operations. But these operations can only be controlled, accounted for, and observed within the system if the system—each system in its own way—has access to the *distinction between self-reference and external reference.* This is only possible in the form of a systems-internal distinction. Otherwise the terms "self" and "other" would lose their meaning. The distinction prevents the system from confusing itself and its environment. It also prevents the system from confusing its own map with external territory, or from attempting to fashion its own map in such a complex manner, as Borges has postulated, that it corresponds to this territory point for point. If this is prevented by this distinction, how then is the *unity* of self-reference and external reference conceived? It is operatively employed as a unity without being observable as a unity. The system can oscillate between self-reference and external reference, thereby keeping the access to the other side of the distinction open. But the unity of distinction is understood as the unity of the imaginary space of its own combination potentials.[18] It is not designated as such. It is employed "blindly" as a stipulation of the possibility of observing and designating something with its help.[19] Put another way, no problem of reference could be solved without the radical separation of self-reference and external reference. Or still another way: there is no common (correct, objective) approach to a preexisting world.

Even if differentiating internal and external on an operative level is unavoidable, a theory (for which this is equally unavoidable) can nevertheless express that both cases concern reference, that is to say, observation. Having said this, we must operate on the level of second-order observations (and I emphasize operate!). This requires specific logical considerations as they are being discussed today in second-order cybernetics.[20] The *unity* of the distinction between self-reference and external reference lies in the *specifics* of the circumstances of second-order observations.

We can then see the resulting combinatorial advantage, namely that the operations of the observed system are constantly subjected

to two different sources of information, internal and external.[21] A greater irritability can thereby be internally processed. This brings to mind the economic system's operations that link payment and services, an example to which we will return.

It is impossible in the midst of all this to thematize the unity of this two-sided form of distinction in its application. The third part remains self-exclusive. Distinctions can be distinguished nonetheless. Contemporary society and its functions systems replace an impossible breakthrough to a final unity—be it society, be it the world—with the distinction between reference and coding—reference in the sense of the distinction between self-reference and external reference, coding in the sense of the distinction between positive code value and negative code value. The two distinctions are logically independent of each other. They are related "orthogonally." This is to say that both sides of the reference distinction are accessible for both code values. The code values serve as both universal and specific binary schemes that help identify a functions system but are also applicable to the self-referential as well as the extra-referential, the system as well as its environment. Even in this case the unity of the code remains an imagination incapable of operations. The application of the code to itself leads to paradoxes. The world can only be identified paradoxically on the basis of a particular code, that is, only as a logically infinite information load.[22] Furthermore, a distinction of distinctions, of coding and reference, remains possible. Society must be satisfied with this possibility and with the combinatorial latitude it provides. It can no longer refer to a final thought, to a reference-capable unity, to a metanarrative (J.-F. Lyotard) that prescribes form and measure. It is in precisely this sense that modernity's traditional semantics have failed.

These are just daring and not immediately fathomable claims in what is for sociology an unfamiliarly abstract case. How can we validate such claims? How can we postulate that they can help us toward a more adequate description of the social system's modernity?

I have implied that these assertions correspond to the functional differentiation of systems logic. We are therefore interested in formulating the concept of the autonomy of functionally specific sub-

systems, an autonomy that is the basis for all distinctions that can be used in these systems. This only shifts the burden of proof to the controversial question whether functional differentiation can really be understood as the establishment of autonomous, operatively closed component systems, or as the limited advantage of the division of labor, as has been the case in the past. Instead of investing more in this question, I would like to suggest investigating the relevance of these distinctions between reference and coding for contemporary discussions of theory. These run parallel because of the organization of academic disciplines and the distinction between functions systems to which they are assigned. Using this method, we will soon hit paydirt.

The current discussion surrounding cognition generally and the scientific system in particular is centered on the problem of reference. Even "semiotics" is spoken of in a way that no longer presupposes a firm, temporally and intersubjectively constant relationship between sign and referent.[23] The starting point thereby is tendentially shifted from theories of correspondence to theories of construct. The conceptual connection between (external) reference, meaning, and truth that is valid for logical positivism is destroyed by the effective criticism of Willard van Orman Quine.[24] A last attempt (for now) to bring meaning and being together for all can be considered a failure. But in the interim we are stuck with the theoretically senseless controversy over "realistic" and "constructivistic" theories. The usual lukewarm answer to a wrongly postulated problem then states that constructivism cannot manage without a small dose of realism. This controversy is wrong because no constructivist—neither the supporters of the strong program from Edinburgh nor Jean Piaget nor Ernst von Glasersfeld, neither the evolutionary cognition theory of the biological or nonbiological variety nor the second-order cybernetics of Heinz von Foerster—would ever deny that constructs must be staged by environmentally sensitive, real operations. These operations are predominantly publications, at least in the scientific system. The production of these publications has already been examined and labeled "reference making."[25]

As soon as we make the distinction between reference problems

and code problems, we see these relationships in a new light. The distinction between analytic and synthetic truths must, as Quine has already suggested, be discarded.[26] It can easily be replaced by the distinction between self-reference (= analytic) and external reference (= synthetic). Then the distinction between reference and coding can take effect, and we see that the positive/negative values of the code true/false can be applied to both extra-referentially and self-referentially defined circumstances. The truths that are only analytically meaningful are not only the result of an instrumental orientation, not only a kind of practice action, model construction, or the like, used before the application of real, that is to say, empirical research. They are rather the area in which the system's self-reflection recognizes its paradoxical foundations and solves them with the help of the asymmetry of system and environment in the sense of self-reference and external reference. In the context of self-reference, we can consider the distinction between self-reference and external reference as still a systems-internal distinction that can be seen as a consequence of the differentiation and operative closure of the system. Logically this leads to a familiar problem, familiar at least since Kurt Gödel, namely the impossibility of an internal guarantee against noncontradiction. Seen systems-theoretically, this leads to W. Ross Ashby's proof that self-organization is impossible without environment.[27] In mathematics this has given rise to considerations of relating all mathematical forms back to an original unity of self-reference and distinction (that is, to the stipulation of the possibility of observation).[28] But even without such argumentation, it is tentatively clear that self-reference as a form is only possible if something else exists from which it can be distinguished, that is, external reference.

These considerations dislodge the binary code of truth from its moorings in preconstructivist certainties, be they assumptions about nature or about the nature of humankind (ideas) or be they successive linguistic, rationalistic, or consensualistic theories.[29] Truth is nothing more than the positive value, the designated value of a code, whose negative value (reflection value) is untruth. The uniqueness of scientific knowledge lies in its subjecting of all observations that claim to transmit knowledge to a second observation with the help

of this same binary code, the results being then integrated into the system as well as possible. This is simply to say that scientific knowledge subjugates reciprocal limitations. Everything that can be true and that can be untrue is thereby transported to the level of the observing of observation and reformulated at this level. Further surety is unnecessary, just as the economy has learned not to fix the value of money in some external reference but only in a central bank's control of money supplies, which is in turn the monetary interference in currency value.

If we turn our attention to other functions systems, similar problems become evident. The contradiction between conceptual jurisprudence and interest jurisprudence has been discussed in the legal system since the turn of the century, as if legal theory had to choose between the one or the other version. Meanwhile this picture has been revised several times. We know that this contrast and the thesis of a historical turning point do not do the criticized conceptual jurist justice.[30] We know that a legally specific conception is absolutely necessary in legal practice in order to actualize abstractions, case comparisons, rules, and legally relevant distinctions. It is equally clear today that an interest-oriented jurisprudence, left to its own devices, in no way protects all interests equally but only those interests deemed worth protecting. An interest-oriented practice is thus left with the tautology that only those interests worthy of legal protection actually enjoy legal protection.[31] Correspondingly, the usual formula for weighing different interests is left without a legal process capable of reaching a verdict.

It is easy for us now to recognize that we are looking at the legal systems-specific version of the distinction of self-reference and external reference.[32] The orientation toward concepts represents self-reference; the orientation toward the effects of legal concepts represents juridical constructs; and the decision of cases on interests represents the system's external reference. This division, like the division of analytic and synthetic concepts of truth, cannot endure, however, as if it were possible simply to choose between one side or the other. Rather, both sides remain constantly in play, and the code

justice/injustice is applicable in both an extra-referential and a self-referential context.

We have already seen that there are legal and nonlegal interests. More complicated are the relationships in the context of the system's self-reference. It would be unusual to speak of legal and illegal concepts. The reason for this is that these legal concepts must contribute to the foundation of legal decisions concerning legality and illegality. They operationalize the paradoxical application of the legal code onto themselves, because the system believes it is legal (and not illegal) to decide over legality and illegality. It is because of this necessity to make these paradoxes invisible and to form a positive legality that the legal status of legal concepts remains unsolved.[33] They are without a doubt a necessary instrument when organizing the coherence of decision making and thereby the legality of the distinction between legality and illegality. Its function lies in determining the *consistency* of handling the *distinction* of legality and illegality in *different* cases.

If we were to distinguish consistently between reference and coding, then this would carry with it far-reaching consequences for both the legal system and legal theory. Just as in scientific theory, the complex structure of a self-referential order that uncovered this basic paradox would be better served. This would then allow us to better understand the internal assumptions and self-produced limitations that enable the system to distinguish between legal and illegal interests in contact with the outside.

A final example should be taken from the economic system. Recent discussion has been dominated by the concept of the transaction.[34] It seems desirable to see in transactions the final, nondecomposable elements of the economic system.[35] But the concept of transaction is itself a complex concept, and upon closer examination it can be seen to presume the separation of reference and coding.

The references are, as always, distinguished as self-reference and external reference. Self-reference is reproduced by the payment of moneys. The payment procedure transports the system's solvency or

insolvency. It guarantees that insolvency and the need for money are once again present, even if for another party. Payment therefore accomplishes the system's autopoiesis, the endless potentiality of further operations.[36] The system refers back to itself with the medium of money and its inherent forms (prices). The other side of the transaction motivates payment in kind or in services. This is a fulfillment of needs, that is, external reference. Needs must be grounded outside the economic system, even if the economy continuously creates its own needs, for example, after investments to expand industry. The transaction is always, on both sides, a complete, internal economic process and not something that can be accomplished half internally and half externally. But it would not be possible (as with all operations of self-referentially closed systems) if it did not construe and refer to an environment. As in the other cases, we are concerned with a construct that will or will not sustain itself within the system. It can be seen on the company level, but also on national and international levels in the economic-internal accounting system, whether needs have been appropriately or inappropriately assessed. But it remains a control of its *own* assessment by its *own* results. The system never finds out what needs "really are."

This coupling of internal and external references only functions because the system has a binary code. This is often discussed today under the heading "property rights." To put it more simply, we can only take part in a transaction if we have something (namely, money or goods) and do not have something else (namely, money or goods). This code of have / have not is orthogonal to the distinction of references. The system, obviously enough, could not function if it were to assign the having to itself and the not-having to its environment. Its order is grounded, just as in the previously discussed cases, in the difference between these two distinctions. Only in this way can room for combination be achieved in which the system can evolve and build up or take down complex orders. And as in the other cases, there exists no positive guaranty of rationality, progressiveness, or any bottom-line consideration of social welfare.

These analyses have decisive consequences for what we can envision in contemporary society as *rationality*. Traditional concepts of

rationality lived off of *external* presumptions of meaning, whether they were based on the copying of natural laws, given objectives, or given values for the choice of objectives. Such suppositions lose their foundation, as do the secularization of a religious ideology and the loss of the representation of uniquely correct points of departure. Judgments concerning rationality must therefore be separated from external presumptions of meaning and transferred to a consistently *system-internal unity of self-reference and external reference*. At this point, relationships to the analyses that are currently presented under the unfortunate pseudonym "postmodern" become clear. A misconception, nurtured by certain lost opportunities in this discussion and heard again and again, is that all this starts to seem rather arbitrary. Examples from each functions system should suffice to counter this.[37] It should not be difficult for sociological analysis to show that arbitrariness in nature is an impossibility.

The preceding analysis covers very different functions systems, whose autonomy respects operative closure and specific distinctions yet still uncovers correlations in the underlying structures. Despite all their differences, the functions systems remain comparable. This can only be explained by the fact that we are dealing here with subsystems of a social system that acquire their own form from this system's form of differentiation. We can therefore assume a thoroughly unique aspect of contemporary society, even if, and precisely because, this aspect can only be demonstrated by way of the functions systems.

V

If we take a broad look at these considerations, they pull the rug out from under the contrast of modern and postmodern. It is impossible to speak of such a division on a structural level. At most we can say that the evolutionary gains distinguishing contemporary society from all its predecessors, namely fully developed communications media and functions differentiation, have grown from humble beginnings to dimensions that have made the course of contemporary society irreversible. This society is almost completely self-reliant.

There is a need to catch up on a semantic level. If we understand "postmodern" to mean the lack of a unified cosmography, a universally applicable rationality, or even just a collective attitude toward the world and society, then this results from the structural conditions to which contemporary society delivers itself. It cannot abide a final word, and therefore it cannot abide authority. It knows no positions from which society could be adequately described for others from within society. What is important here is not the emancipation of reason but emancipation from reason. This emancipation need not be anticipated; it has already happened. Whoever believes himself to be reasonable and says as much is observed and deconstructed. But a similar fate awaits a sociology that formulates such ideas. And the question can only be whether, in the course of such an observation of observation, stable and unique conditions result that can no longer be changed under the given circumstances.

But do the many now simply replace the one? Do the unity of the world and the unity of society dissolve in a multiplicity of systems and discourses? Are relativism, historicism, pluralism the final answers when we speak of freedom? And all this now in the historic moment in which the unity of a world society seems unavoidable, unable to tolerate two different world orders, capitalism and socialism?

Perhaps we can unravel and solve this paradox by distinguishing between operation and observation.[38] The operation of social communication *produces* the unity of the social system by recursively referring back or forward to other social communication, creating a *distinction* between system and environment. It distinguishes itself by the execution of the *observation*, which must distinguish this communication from others or the environment from systems that are reproduced through this operation. The observation must and can choose distinctions, and it can be observed with regard to the distinctions that it chooses or avoids choosing.[39] This is the source of relativism. All observations remain independent of distinctions, whereby the distinction cannot be observed while in use. (It has no definition of place, says Gregory Bateson;[40] it serves the observation as a blind spot, says von Foerster;[41] it finds itself on neither one side

nor the other, that is, on no side that could be used for recursive operations.) And since distinctions in greater numbers are available, and since the same thing can be distinguished in many different ways, there exists no observer-independent, given reality.[42] Therefore we have been forced (!) to distinguish reference problems and coding problems (problems of definition and problems of distinction).

There is only one way to stick to the operative realization of observations if we want to determine which is the case. Observers must be observed with a view to which distinctions they use and which side of their distinctions they mark,[43] in order to fix other operations on one side (as opposed to the other side). What is construed as reality is in the final analysis guaranteed by the observability of observations. This is a powerful guaranty. Even observations are only observations if they are realized as operations. They are not observations if they are not carried out. The specific modernity of this observation of the second order is inherent only in that it no longer relies on a collective world and is no longer ontologically predisposed, but also, if not primarily, in that it examines the question of what an observer can and cannot see with his distinctions.[44] We find ourselves in the land of motive and suspicion, the novel, the critique of ideology, psychotherapy. And we also find ourselves, with the exception of those special cases already discussed, in the realm of the mechanism in which contemporary society experiments with viable forms.

What kinds of forms could these be? Even if society's self-description nourishes itself with a recursive network of observations of observations or the description of descriptions, we could expect this process of operations to produce values, that is, positions, that would no longer change with the further observation of observations but remain stable.[45] In contemporary society these values are no longer objects of direct observation. They cannot be envisioned as the identity of things that another observer could always see differently. They are likewise not to be found in final (reasonably founded) normative postulates. The establishment of such postulates always opens the door for the critical question of a second observer:

who says that? whose interests does it serve? who needs it? In the nineteenth century the old concept of nature was shattered by the distinction between being and value. But this distinction does not help us in this case, because we are confronted in both areas with the experience that all statements become contingent on the level of second-order observations, and that every observation, including those of the second order, can be confronted with the question of which distinctions it uses and what consequently remains invisible. This leads us to the assumption that the values of contemporary society must be formulated in the modal form of contingency.[46]

We are left with a minimum of "negentropic" order, that is to say, an order with bound alternatives. Its own values can be found in "places" or in "functions" that can be variably, but not arbitrarily, occupied. Stability is then guaranteed in that only limited possibilities of substitution exist for everything we encounter. It is possible to move to another apartment, but only after having found a new one. If a private car is no longer available, then we have to rely on other means of transportation. We cannot rely on rocking chairs instead. It is correspondingly difficult to conceive of our society without a state, without laws, without money, without research, without mass media. Functions with this span create self-substitutive orders. It is especially difficult to imagine a social order completely without differentiating functions systems, which is to say, to find an alternative for the function of functional differentiation.

In principle we can construe the values of this low state as only temporary reference points. But their elimination would result in catastrophe—catastrophe understood in a strictly systems-theoretical sense as the abrupt transition to other forms of stability. It is one of the unique characteristics of contemporary society that this can be thought and communicated. We would not be dealing with functional equivalents, however, but with an "alternative society" in a weightless space, in which all distinctions are invalidated and the unity of the system without distinction from its environment rests within itself.

Contemporary society as we know it receives the dynamics of form from its own values. Everything it construes as identity serves

to make available limited exchange and substitution possibilities, the waiting for opportunities. This includes being able to exchange basic concepts, as far as they can be identified, in society's world and self-descriptions, such as replacing the concept of substance with the concept of function[47] or replacing the idea of a delineating a priori with the historical processes of the temporary self-connection of systems. We learn, as the romantic era taught us, that the inevitable consequence is that we can no longer trust the world's stage. It asserts itself diabolically in rational events.[48] The reference system of poetry gives itself priority over all external reference, but only to make itself seem ambiguous. And this is, in turn, the solution for another problem, the problem of time. The only thing we can know about the future is that it will be different from the past. This makes any induction uncertain; all forms are fitted with a time index; and the present becomes a border value that unifies the difference between past and future and thereby functions as the excluded third party that can no longer be localized. We have known all of this for two hundred years without sociology having known it at all. We read in Novalis: "We are past the time of generally applicable forms."[49]

CHAPTER 2

European Rationality

I

However we may judge the cultural situation of contemporary world society, what is distinguishable as specifically modern has been formed by the European tradition. We might question whether and to what extent the switch from primarily stratified to primarily functional differentiation of social systems has taken place in many regions on a structural level. But the development in this direction started in Europe. On a semantic level we might variously assess the resistance of old cultures, their future, their capacity for revival and self-assertion against the imputation of being "modern" in the European sense. But only Europe has brought forth worldwide social descriptions that reflect the experience of a radical structural transformation of society since the late Middle Ages.

The geographic label "Europe" is, of course, a problematic one. It alludes to unity where, at first glance, only differences can be seen; but we see only the surface. The following is therefore an attempt to demonstrate the distinct unity of the European tradition with specific application to the topic of rationality. We are first concerned with the unity of a historic-semantic development that accompanied the transition to modern society. This process explicates itself and oscillates between self-erosion (step by step, under terms such as "criticism," "nihilism," "postmodernism") and utopian renewal. But

even this "bifurcation" can still be understood as unity, namely as applying the process of learning to the little-understood phenomenon of modern society. And unity is to be taken in this sense as a distinct unity, as something that distinguishes itself from still-extant concepts of non-European rationality.

If we continue with this still vague self-appraisal, then it might be that European rationality distinguishes itself from other comparable semantics by its use of distinctions. This might lead us to process our own history in the light of Hegel's theories of logic and history but also to a plethora of other distinctions that split rationality itself or distinguish it from other, equally valid world orientations of feeling or imagination. Finally this leads us to the thesis that the distinction between European and non-European semantics can only be observed and described from the perspective of a distinctions-conscious rationality. The admiration for China prevalent in the century of Enlightenment would then be no coincidence. And the advantage of European rationality with regard to reflection would not necessarily mean that reflection leads to a self-verified superiority, to a self-assessing Eurocentrism. The opposite would be equally imaginable, for example, admiration for a naïveté no longer attainable or for the authenticity of non-European cosmographies.[1]

All of this is, for now, just vague conjecture. Much depends on whether and how it might be possible to describe conceptually the specifics of a rationality that is focused more precisely on distinctions.

II

The history of European rationality can be described as the history of the dissolution of a rationality continuum that had connected the observer in the world with the world. If the observer is seen as a thinking being (rational animal), then we are concerned with the convergence of thought and being, that is, naturally occurring purposes. In any case, the totality of things and the finality of movements (*téle*) carry what happens in the world. The activity of intelligence is directed *ad rem*, according to Aristotelian-Thomistic doc-

trine, and ends there. The possibility of understanding whatever is and happens as a visible order, or, in the Christian faith, of going back to the knowledge and will of the Creator, makes it possible to declare this convergence to be good. "A thing is directed toward truth and good" ("Ens et verum et bonum convertuntur"), as transcendental doctrine tells us.

According to traditional doctrine, nature as well as being have parts that can, in their essence, reflect their own being or nature. This ability does not require any vantage point outside of being or nature and forms the basis for any attribution of rationality. It is easy to see that this description of a social order granted parts of society—the urban or the noble—privileged prospects of rationality. This was expanded via analogies as well as a hierarchical cosmic architecture to form a complete picture in which the representation of the whole within the whole was left to reason.

The dissolution of this order might already have had its beginnings in the nominalism of the late Middle Ages, at least in the seventeenth century.[2] Given the intense need for consistency brought on by printing, the increasing structural complexity of society led to dissentious descriptions, to truth wars,[3] to a humanistic skepticism that wanted to leave the question of truth open. But it was impossible to leave the principle of a universally valid rationality undecided.[4] Richard Rorty had not yet been born. Attempts at reconstruction piled up. Since the seventeenth century we have spoken of "ontology" (in critical problem-awareness).[5] Thought and being diverge at first in the form of parallel ontologies, so that thought can verify itself with true and untrue thoughts: whether true or not, I think! Purpose is thought of as selectable, so that motives or interests must be questioned, nature being thereby relegated to the outer parameters. The eighteenth century's belief in reason is based on differences. The Enlightenment sees itself in a world that must be enlightened. It irrationalizes everything that is in the way. Along with reason there is history; along with Newton there is Münchhausen; along with rationality there is pleasure; along with modernity with its work, language, and science there is romanticism's fantasy, portraying the unity of the world as strictly decorative—as magic, as

long as one does not believe in it. Rationality shifts to high-energy rationalities that only cover partial phenomena, only orient society's functions systems, such as the economic rationality in the relationship between purpose and means or the scientific rationality of the correct application of the laws of nature or the juridical rationality of decisions based on laws or conceptually categorized experiences with case decisions. In the end we create different types of rationality, such as purpose rationality and values rationality, without questioning the understanding of rationality that forms the basis for calling both sides of this and similar distinctions rationality. We have come to Max Weber and Jürgen Habermas. But even here, the traditional distinction between subject and object or the distinction between the facticity of action and normative requirements are posited as the schema of posing the problem. And instead of questioning, we would rather accept a plurality of forms of rationality.

We have become more and more accustomed since the nineteenth century to working with distinctions without questioning the unity of the distinction itself. The narrator presents the narration, be it of a novel or of a world history, in which he is no longer present and, as evidenced in the case of Hegel, is no longer able to be present.[6] Likewise, the physicist has no place in the "univers automate"[7] of classical physics. He is not physically present, neither as observer nor as actor. Countless explicit distinctions, such as those between mind and matter, state and society, society and community, individual and collective, or capital and labor, serve as analytic instruments with open (or resulting open or hidden) options for one side or the other. Politicized distinctions based on the program of the French Revolution or the socialist movement use the same style of covering up the question of unity. Holism becomes an intellectual option.[8] Rationality itself can also be made a component of a distinction whose other side must then be something irrational, for example, pleasure, fantasy, or imagination.[9] But does the irrational then perhaps only serve to protect a deficient concept of rationality?[10]

The one-sidedness of attributions of rationality, and the renunciation of the question of what the unity of the particular distinctions might be, illustrate the inability of modern society to reflect

its own unity. That may be due to the fact that these forms of distinction are oriented toward functions and do not allow for a place to describe society within society. At the end of this century these interchangeable solutions fail to satisfy us. We speak generally of an "erosion of the validity of former cultural oppositions" and demand a shift from " 'what' questions" to " 'how' questions."[11] We are interested not just in what is distinguished but above all in how things are distinguished and who makes these distinctions. To the extent that social reflexivity, empathy, and consideration of others' reactions are incorporated into the decisions on action, the idea of a rationality that could guaranty the unity and certainty of a worldview is undermined.[12]

So in this nicely partitioned world, where has the observer gone? the narrator? the poet? those who write? those who use distinctions to distinguish things, thereby characterizing them? those whom one could ask: why is it this way and not some other way?

One possibility is to characterize this person as an extramundane subject. This leads to the question, If he is not present, who can observe him and how can he be observed? Another possibility is to ignore him, because it is self-evident that all observers have to be observed in the same way, at least if their thinking is supposed to be true and their actions reasonable. This leads to the famous, now hardly accepted congruence of reference, meaning, and truth, as it was last posited by logical empiricism. This presumes that the world is the same for all observers and that it can be determined (and not that the world, as far as it can be determined, is different for different observers, nor that the world, as long as it is the same world, remains indeterminable). There is for Husserl a connection between the transcendentality of consciousness as the subject and the determinability of the world,[13] be it that the subject guarantees this determinability as an aspect of its consciousness or that the phenomenon of universally present determinability allows for the inference of the transcendentality of consciousness.

Perhaps the most significant attempt at a postontological construction of the observer can be described as the philosophy of immediacy. It reaches from the starting point of Hegelian logic by way of the thesis of an immediate (unreflected) self-relationship all the way

to a philosophy of life,[14] to a philosophy of existence, to Heidegger's analysis of being, even to the philosophy of the sign, which seeks the only occasionally possible release from the infinite reference to other signs by means of an immediate understanding of the sign.[15] Derrida's radical critique of the premise of presence tries to overcome this tradition. We might also ask, in somewhat less exacting terms, whether immediacy itself is expressed by the distinction immediate/mediate and has no other way of reaching the observer (experience, understanding).

Another possibility, the laziest of all compromises, is to agree on "pluralism." This both begins and avoids the deconstruction of the distinction between subject and object. We concede to each subject its own way of seeing, its own worldview, its own interpretation, as with the reader of Wolfgang Iser, but only in a framework that at the same time allows for the "objective" world, text, and so forth.[16] Having given in to unavoidable conclusions, the new epistemology similarly allows for a "constructivism," but not without a certain consideration of reality.[17] Ronald Dworkin claims that legal problems, even in "hard cases," can only have one right solution according to legal theory. He therewith justifies the reversion to moral principles in law.[18] As it turns out, however, this is not meant to say that this correctness can be proven.[19] It apparently only means that a jurist, who takes the law seriously, must be blessed with a sufficient lack of understanding of the opinions of others. Western rationalism in its final phase can hardly make its own weakness more clear.

Finally, if all this still leaves room for doubt, we might get the idea that the observer cannot be observed. The observer must characterize what he observes, that is, distinguish it from everything else that remains as "unmarked space." He himself disappears in "unmarked space." Said another way: he can only observe from within the "unmarked space" in that he distinguishes what he observes from everything else, including himself. Nothing would be valid if he characterized himself as the object of his own observation.

This is at least true if the observation has access only to a two-valued classical logic. The two logical values that the observer can access are already used up as he characterizes the one or the other side of the distinction. Logical possibilities are then absent for the

characterization of the distinction itself and especially for the characterization of whoever makes use of the distinction.[20] We must then treat distinctions as well as observers as simple objects that are in turn distinguished with the help of inexplicable distinctions. But if we wanted to observe and describe how a distinction is used as a distinction or how an observer as an observer characterizes the one and not the other side of a distinction (even though he could do otherwise), we would need a structurally adequate logical instrument. This is as yet unavailable, except in an extremely formal sense.

Nevertheless we can, now at the end of the century, formulate the problem somewhat more precisely.[21] Historically we can see a distinct correlation between the traditional assumption of an ontologically describable world—that is, a world describable with the aid of the distinction between being and nonbeing—and a two-valued logical instrument. This assumes a society in which differences between different world and social descriptions are not all that great and can be decided from incontrovertible reference points from the top or from the center of the system. The rest then is corruption, error, or seduction. We can see that possibilities have been developed in the meantime that have no logic, not even a recognized epistemology. These are possibilities of the observation of observers, possibilities of second-order cybernetics.

If we give up the assumption of parallel views of a unified world, then we must ask whether someone can act rationally if he is observed.[22] There would have to be limitations on the reactions of the observer of the observer that could take into consideration the rationally ambitious observer of the first order. In view of this problem, rationality becomes dependent on institutional or negotiable presumptions, whose self-rationality (metarationality) can hardly be found in the rationality that it enables.

To this we must add much more radical problems that deal not only with the divergence of interests and goals but also with the structure of observation itself. An observer can observe another observer (who can be one and the same) with regard to what he sees and what he cannot see. With reference to the instruments of observation, that is to say, to the distinctions that an observer uses to characterize what he observes, we arrive at a difference-theoretical

relativism. We see what can be characterized by certain distinctions that specify both sides (for example, good/bad, more/less, before/after, manifest/latent). We do see not what functions within the context of distinction as the one side or the other, but rather the exempted third. The observer himself is always the exempted third party. According to Michel Serres,[23] he is the parasite of his own observations. But it is precisely this that another observer (a critic of ideologies, a psychoanalyst, or a therapist) can see and characterize, even if simply as another observer who only sees what he sees and does not see what he does not see.[24] In this way we can also thematize the damage done by rationality, the trouble that comes from rational reckoning and best intentions, the "rational fool,"[25] or, as Paul Valéry has formulated it, the "mischief done by those who are right."[26]

We have not yet been able to grant the status of cognitive recognition to the interest in the observation of what an observer cannot observe. The so-called "battle of the sociology of knowledge" was fought under the conditions that had already prevailed in the "Theatet" discussion: there can only be one truth, so that statements that label true statements as untrue do not validate two truths but can be used to clear up fallacies. Psychoanalysis has never been recognized as a cognition theory but rather is known as a science of therapeutic practice. "Relativism," "historicism," and so forth are considered of little value, and the "postmodern" (in reality: the modern) diversity of discussions, of deconstructionism, and of "anything goes" can only cause a stir as "happy sciences," and they style themselves as such. In any case these representational forms are so widely known that, if such phenomena are still considered to be deviant, it can be asked whether the problem is not more one of cognition theory and its logical instrumentation.

III

Perhaps there are epistemic blockages stemming from the tradition that prevent progress.[27] Among these might be the following assumptions:

1. that *cognition* is in itself rational;

2. that *learning* improves and does not impair the condition of a system and its adaptation to its environment;

3. that more *communication* and socially reflected communication (in the broad context of group dynamics) contribute to understanding instead of having the opposite effect;

4. that *rationality* can be comprehended in the form of a *program*, for example, as a maximization of use or as rational understanding.

The well-known problem of the social aggregation of individual preferences makes such a thesis seem questionable. The same is true if we consider the narrow conditions of the "near-decomposability" or, in more current terminology, the "reconstructability" of systems.[28] It may be that we are bound to such premises by an undeveloped concept of rationality. But what would we do if the discrepancy of modern social structures led us to more and more disappointments?

If cognition, learning, and communicating are a kind of operating with distinctions, that is, in our terminology, an observing, then we could make headway if we examined rationality specifically with reference to distinctions. We will therefore proceed not from a specific programmatic form (see item 4 above), for which no other reasons can be given than evidence,[29] but rather from the shift of observation to a level of the second order.

We begin the analysis with a retrospective of the Old European rationality continuum. We believe it is characterized by two distinctions: the correspondence of thought and being and the correspondence of action and nature. As long as the world is presumed to be order, cosmos, creation, or harmony, then our attention is directed toward the correspondence and its eventual breakdown, which is then to be treated as an error or a mistake. Thought and action are then objects of a two-valued logic that observes its object with the help of the distinction between a positive and a negative value. If, however, we look at the convergence created for the distinction of thought and being or of action and nature (and "convergence created for" means that we are *not* concerned with the distinction of a positive and a negative value), then something peculiar becomes noticeable. In order to achieve a convergence with *being*, thought

must itself *be*. It may not take refuge in the pure self-reference of an extramundane subject but must allow itself to be conditioned. And action must, in order to achieve a convergence with nature, be *nature* itself; that is, it must realize its own nature and not just the will that wills whatever it wills. The side of these primary distinctions that relates to humankind, namely thought or action, was distinguished from the other side: it (i.e., thought or action) was itself that from which it (i.e., thought or action) had to distinguish itself. Despite the emphasis of world unity as nature or as creation, and despite the theories of the representation of being in thought or the imitation of nature in artistic action, a "break in symmetry" was inevitable in the Old European cosmology. A remarkable position was reserved for the observer. The rationality continuum was thought to be asymmetrical. The preferred position in the building of the world, containing both itself and its opposite, was that of humankind. In this sense, the Old European tradition could consider itself rightly to be "humanistic."

This can be understood with the help of systems theory. Losses of symmetry are considered in present-day systems theory to be conditions for the evolutionary construction of complex systems structures.[30] Considered in distinctions-theoretical terms, this means that the distinction must recur in the distinguished, on the one side but not on the other. The distinction occurs again in itself. It accomplishes, according to George Spencer-Brown's concept of a calculus of form, a "reentry" of the form into the form.[31]

Even the newer semiotics finds itself in the same situation. It defines itself in the distinction between sign and signified. But since Saussure, semiotics has known that this distinction has no external reference but only describes the function of language, the processing of distinctions. But must we therefore accept an arbitrariness of the rhetorical utilization of referenceless signs? Or is the solution to be found in the fact that the distinction between sign and signified cannot be made arbitrarily but only with the necessary redundancies and according to traditions?[32] But then we would have to be able to *signify* the unity of this distinction as temporally and factually nonarbitrary. This leads to the well-known form of the definition of

signs as the difference between sign and signified. Accordingly, the sign, too, would be a distinction that recurs in itself.[33] From this is derived speculation on the self-critical, self-deconstructive potential of a "second semiotic" that is forced to apply its primary distinction to itself or else be unable to signify its own form.[34]

These are amazing yet puzzling findings. They dissolve all categories with which the tradition has worked on a presumably ontological basis, because they read these categories as distinctions.[35] Thought that must distinguish itself from being in order to observe and signify being is itself the distinction between thought and being. It "is" "thought." And action, which confronts nature with a process of time that would not exist without the intervention of action, and which thereby strives toward discontinuity, itself creates the distinction between action and nature. It could be that the central question of European rationality is hidden in this reentry of the form into the form. This is the reason the distinction had to become reflexive on its reentry side, thereby becoming unstable. It finally produced the absolutist figures of thought and will in which the European semantics of the subject achieves a break with its tradition *and at the same time proves that it cannot possibly work this way.*

What exactly went wrong?

Perhaps it is only the tradition's humanism and its tie to anthropologic concepts that cannot endure the impulse to reentry. Perhaps thought and action are ill-suited to sustain in themselves the return of that from which they must distinguish themselves. Perhaps it is only anthropological individualism, ever-increasing since the eighteenth century, that makes it seem puzzling that someone could act rationally while presuming that others, for whom breaking the rules would be rational, would follow those same rules.[36] And maybe it is the diminishing plausibility of humanistic world and social descriptions that have led us to this impasse. Perhaps humankind explodes in the presumption of being the subject of the world, leaving behind billions of concrete individuals that can again be taken seriously as such. And maybe humankind's final external demand was to be emancipated—a thought that presupposes that one sees humankind as slaves and *not as individuals.*

Let us first take a look at the calculus of form from which we take the figure of reentry. Spencer-Brown uses a single operator, the mark (this enables the integration of arithmetic and algebra). This mark denotes the operative unity of distinction and indication, that is, the unity of a distinction in which the distinction is itself one side. But this is introduced with the following argument: "We take as given the idea of distinction and the idea of indication, and that we cannot make an indication without drawing a distinction."[37] At the end of the calculation a concept of reentry is formulated that also includes this beginning. The calculation models an operatively closed system that leads a latent reentry into an open reentry, whereby the reentry itself is never an object of the calculation, neither at the beginning nor at the end. Beginning and end are distinctions that cannot be distinguished in the beginning and ending system, no more so than the universality of the applicability and the elementarity of operations.[38] It depends only on the self-explication of the distinction within the structure of complexity. And distinction is "perfect continence," that is, it corresponds to the closure of the system. There is no outside, no external necessity, no enabling world, except as a component of the distinction between internal and external. The marginalization of both reentries seems to serve to keep the calculation itself paradox-free yet to recognize that all distinctions lead to paradoxes as soon as the symmetrical exchangeability of both sides (or the access of each side from the other) breaks up through the reentry on one of the two sides.

These considerations become more concrete if we illustrate them with the help of a systems-theoretical concept. The newer systems theory forsakes any type of holism, with the result that the distinction schema of whole and part, and thereby also the forms of reentry, are subordinated. In this way the parts represent the whole. They are determined by "holograms," with which the whole scores itself into its parts. The theory proceeds by assuming the distinction between system and environment. It does not describe certain objects, called systems, but rather orients its observations of the world toward a certain distinction (and none other), namely that of system and environment.[39] This requires the use of pervasive "autologic"

concepts: the observer must recognize himself as a system-within-an-environment while he carries out observations operatively and then links them recursively. The narrator appears in what he narrates. He is observable as an observer. He constitutes himself in his own field and therefore necessarily in the mode of contingency, that is, with a side-glance toward other potentialities.

The form of reentry also follows this theory design. It is valid only for the systems side, not for the environment side of the initial distinction, and it describes the reentry of the distinction of system and environment into the system. With this it achieves the form of the distinction between self-reference and external reference. This ensures that reference to the difference between "self-" and "external" is clear for each system in its own way, namely, that that difference is itself. If necessary, the reentry can be repeated within the distinction of self-reference and external reference. The "self-" then determines itself as a second-order observer that observes how it divides the world with the help of the schema of self-reference and external reference. This leads on the one hand to a "constructivistic" worldview, for which the unity of the world and its determinability no longer coincide through a distinguishing observation, and on the other hand to an acceptance of the certainty that each observation within the world makes the world visible—and invisible.

The observation of those operations that accomplish a reentry of the first or second order leads to the observation of the creation and development of a paradox. The external can only be attained from within. The observation observes the operation of the observation. It observes itself as an object and as a distinction, or, according to the conception of the romantic era, as a doppelgänger or asymmetrically as a mask, in the mirror, from within and without,[40] but always with its own operations, that is, as highly individualized. The observation's mathematical representation would require an "imaginary space" that is invented for this purpose alone. It would in any case not suffice to yield to a "hierarchy of types" that would do nothing more than veil the paradox through a distinction of "levels" invented just for this case.

Is it possible in this world of magic and irony, imagination and

mathematics, schizophrenia and individualization to seek rationality through an observation-of-the-self-as-observer? Certainly not if we think we can describe the world as it really is and then communicate to others how they ought to think and act. No distinctions-logical concept of rationality would ever lead back to this position of unity and authority. Reason—never again! But we could imagine that the rule "Observe the observer and the development of instruments formally suited for the purpose" might lead us out of our pure resignation to obsolete ideas.

For we can observe what other observers cannot observe, and we can observe that we are being observed in this same way. Formally this leads back to a self-referential form.[41] An observer can therefore also observe how a system creates paradoxes through the distinctions it uses, and which distinctions it then uses to "unfurl" these paradoxes, to decompose them into distinguishable identities, thereby dissolving them.[42] There are, in other words, always distinctions with which a system can identify itself, because *their* paradoxes are made invisible in order to avoid other paradoxes of distinction.[43] This condition is represented by Spencer-Brown's calculus of form with the decree Draw a distinction!, whereby distinction means the unity of the distinction between distinction and indication, which has already completed its reentry without having been able to observe it.

IV

These considerations can be condensed into a difference-theoretical concept of systems rationality.[44] This concept would have to assume that a system *excludes* itself *operatively* from its environment and *includes* itself *by observing*. It does so by basing the difference from the environment, a distinction between self-reference and external reference, on systems-internal observations. This means that the system, through exdifferentiation, becomes practically indifferent to what happens in the environment. But this indifference is used as a protective shield to build up the system's own complexity, which can then be extremely sensitive to irritations from the environment

as long as they can be internally perceived in the form of information. Rationality could then mean: reflecting the unity of difference between system and environment within the system. But this cannot result dialectically as the elimination of difference and most certainly not as an indication of a more inclusive system, a "higher" system, an "ecosystem." This extension to the whole was traditionally linked with concepts of dominance. Both extend past the structural realities of modern society. What remains is the possibility of continuing one's own autopoiesis for as long as possible under such conditions, be they ever escalating, ever more incredible.

But what would then be specifically European? What would this have to do with the specifically modern structures of a world society that, starting from Europe, has grown together into a global communications system?

First we must set certain limits in regard to what cannot be meant. Not meant is obviously the unimpaired continuation of a rational *télos* of European history, as imagined by Husserl in his final work.[45] Not meant is the continuation of a view of reason that holds that whatever does not correspond is characterized as "unreasonable." The distinction between reasonable and unreasonable (rational and irrational) only requires us to observe who uses it and for what purpose. Not meant are "culture comparisons" of any kind that invite us either to put everything in one pot or to assume an external reference point that does not exist. Not meant, finally, are fashionable fusions of mysticism and rationality that confuse Far Eastern and European thought.[46] We must not apodictically exclude returning to such figures, but we will remain explicitly within a self-distinguishing, dissolving, and reconstructive tradition of the European concept of rationality.

Having been socialized in this tradition, when I read texts about the world, society, politics, and so on, that have been sent by Chinese or Indian colleagues, I find that they have been composed categorically. This means: they use concepts (as was once the case with categories in the European tradition) to divide up reality by means of language.[47] These concepts distinguish what they characterize

(or so it seems to me), but they do not explain why certain distinctions were chosen and not others. Western thought may influence the conceptuality or the translation, but they are put into the perspective of an observer of the first order, as if something could be characterized that exists the way it is characterized. Generalizations can meander into the ambiguous, perhaps even the contradictory. This goes unnoticed or is at least not thought to be disturbing, and nothing changes the intent to describe directly the world or some of its particulars.

But we should not make it too easy on ourselves. Even the Far Eastern tradition already recognizes the self-reference of knowledge, just as it knows self-referential signs, namely symbols. The forms of self-referential knowledge are communicated as "wisdom."[48] Wisdom is precisely what is created when knowledge of knowledge, that is, self-referential knowledge, is developed on the level of observations of the first order, never to depart from that level. Origins might be sought in divinatory practices in the Near East as well as China, and also in their written textualization and in the reflection of failures in the semantic primary material. We do not want to exclude other beginnings. In any case, as a result we have bodies of knowledge that are only practical in situational contexts (such as proverbs) and, as if to make up for this weakness, obligate the wise person himself to reflect his wisdom in his lifestyle.[49] Missing are attempts to deal with inconsistencies (that is to say, to systematize), because the wise person observes himself, applies his wisdom to himself, and does not attempt to account for the perspectives of others or other possibilities of perspective. And if this should be the case, then the reverse follows: systematizations correlate with the shift to second-order observations. Both in jurisprudence and in theology we find a renunciation of wisdom as soon as inconsistencies become apparent owing to the availability of a vast number of written texts. These prompt us to problematize the manner of observation "hermeneutically" (as one would then say), assuming the constancy of the texts concerned. Transcendental philosophy, along with the figure of the autonomous subject, may have been Europe's

final attempt to achieve, with the withdrawal to one's own subjectivity and its consciousness, an order of knowledge that obligates cognitively, ethically, and aesthetically.

Parallel to this, printing allows the transition to a knowledge more trivial than wisdom. This trivial knowledge relies completely on writing and leads to second-order observations. In the typical format of Western "scientific papers," we begin with the current state of research. This eliminates the need for any farther-reaching reflection. One has to offer something new only in relation to what has already been published.[50] Any reflection is replaced by a pedantics bordering on scurrility, controlled by editors and reviewers. This, too, can be conducted as a first-order world observation. Humberto Maturana would say: as an observation of one's own niche, with which the system interacts.[51] But the form is chosen to be compatible with the contingency of all world descriptions. It gains its legitimacy from the momentary state of research out of a historical state that it can change. Without being planned in this way, the text, in itself completely without pretension, realizes a world description that changes what it describes through its description. It accomplishes the autopoiesis of the knowledge system, and along with it the social system, without having to reflect this in the completion of the operation. Another level is responsible for reflection, a level that distinguishes itself from the immediate research as a knowledge theory (or more generally, as a cognitive theory) and, pointing to the momentary state of its own research, explicates what it, as research, can offer research in the way of something new.[52] Since Hegel, philosophy has been its own history. But beyond Hegel, philosophy is fixed for an observer who can make his own judgments and can suggest other distinctions.

One publishes not to teach but to be observed. The system of knowledge is differentiated on a level of second-order observations. The same is true of the market-oriented economic system,[53] politics oriented on "public opinion,"[54] art,[55] and probably all differentiating functions systems. Functions systems, not society as a whole, are the operative dischargers of rationality in contemporary society.

What is expected of rationality must therefore conform to systems creations that must primarily secure their autopoiesis on the level of second-order observations, such as the rationality of superiority (called competition) in economics and politics or the running observation of observers in the scheme of old/new in arts and science.

It has been stated that even under these conditions, rationalism is presented with problems by the historical situation; that is, it proceeds traditionally, even though it arose in the seventeenth and eighteenth centuries as a rejection of traditional connections and still today tries to demarcate itself through a critique of traditionalism. Rationalism is blind in regard to its own problem formulation.[56] This is certain and cannot be overcome on the level of second-order observations. The observer on this level alerts both himself and the observation to the problem. We cannot see what we do not see, but perhaps we can at least see that we do not see what we do not see.

A theory that takes up these considerations can be a *social theory*, but must then be grounded in a theory of knowledge and be satisfied that it is only a social *theory*. It will create a constructivistic understanding of reality that takes into consideration that first-order observers are concerned not with constructions but rather with objects. It will no longer recognize a binding representation, but rather find itself (not only the others!) in a multicontextually constituted world. It will, the more it reflects on its own context, have to make the painful sacrifice of becoming self-disinterested, compensated by the calculated certainty that there are other points of departure for rationality and for second-order observations.

The constructivistic multicontextual concept of rationality must be the moment of a distinction (there is no other way to describe it). It is normal to place this distinction in a historical context, that is, in comparison to Old Europe or other cultures of the ancient world. This leaves everything open for the self-concept of modernity, with which we are concerned, and leads to a term that is by now worn out: "postmodern." But maybe we can gain a more precise understanding of the "other side of rationality," one that could be characterized by the semantics of paradox, imaginary space, the blind spot

of all observations, the self-parasitizing parasite, chance or chaos, reentry or necessity, externalizing toward an "unmarked state." These are ideas that would gain their contours exclusively from precision, fixed by rationality, and that would finally lead to an indirect self-characterization of the rational. But it works the other way, too: the comprehensibility of the world becomes incomprehensible, and the awe of technology grows the more we know how it functions.

V

We have returned to a question of form, that is to say, to this question: how does rationality distinguish itself? It should be clear that we are not concerned here with a Cartesian self-assurance of rationality that can, once it is secured, use itself as a basis for distinctions (for example, that of truth and untruth). Instead, the self-assurance of rationality assumes a distinction if there is no other way to make itself a topic. It is not possible, however, and this was a result of our analyses above in Section II, to assume a distinction without raising the question of which observer will make use of this distinction, under what limitations of choice that might be typical for him, with what blind spot, and to what end. There is no distinction that can remove itself from such a second-order observation, not even Spencer-Brown's distinction between distinction and characterization.

But this is not to say that this is simply the final evasion of a forced renunciation of solid suppositions or that this is to be regretted. It also does not mean that the result is to be celebrated as the victory of rhetoric over ontology and that the illness, now that it has spread universally, is declared to be wellness.[57] This might lead us to the right path, but what is missing is the reflection of form; and only this can justify continued use of the term "rationality" and not speaking of "postmodern" simply to overcome embarrassment.[58]

A precondition of every rationality is a distinction that comes up again in itself. This was illustrated above with Spencer-Brown's forms calculation (distinction/indication), the example of systems theory (system/environment), and the example of the distinction

between sign and signified—examples chosen to show the complex and well-known terrain of modern intellectuality (mathematics, systems theory, semiotics) with all the uncertainties determined by their use of the traditional. It is easy to find other examples once this self-implicative form becomes evident, such as the distinction between observer and operation, which implies that the observer is himself an operation and that the distinction itself is an operation and that the distinction itself is an instrument of observation. Another example might be the distinction between medium and form, which can only posit itself as a form within a medium.[59]

Common to all these cases is not only the form of the reentry of the distinction into the distinction but also, at the same time, the implicit reference to the historical context in which they are formulated: to the experience of contemporary society. These cases explicitly negate an orientation toward ontological suppositions, such as those of transcendental philosophy. They seek their last foothold in a difference and consequently observe each search for unity, for example, as search in contemporary physics within the atom,[60] as a (hopeless) desire to return to a state of nature or even paradise.[61] Those who try this observe from the distance of a second-order observer and know from the beginning that they will fail.

But can the form of the entry of the distinction into the distinction be seen as rational only because it makes this decoupling possible? Isn't this simply a historic specification that only holds on to the failure of all reference-dependent concepts of rationality? Form guarantees closure, "perfect continence," as Spencer-Brown formulates it.[62] But it owes this to a paradox, hidden at first, then uncovered, that consists in the fact that the distinction that returns in itself is the same and not the same. This paradox apparently symbolizes (but is it right to say "symbolizes"?) the world. It stops the observer before he can undertake to say something about the world that can only lead to the world's withdrawal from being describable. The paradox of form, seen in this way, would be a representation of the world in the mode of unobservability but with the demand that the paradox be solved through the appropriate distinctions, be "un-

furled" through an identification of distinctions. The other side of the form of the rational that must be excluded (even though it could be characterized) is the paradox of form.

But even terms such as "world" or "paradox" are only (but do we have to say "only"? and what is missing if we say "only"?) components of a distinction. Meanwhile it seems that the dependence of the designation on distinctions is the problem that has guided the European development in the direction of a second-order observation. When we formulate the problem this way, it becomes apparent that Far Eastern mysticism (if this European word is even appropriate) reacts differently, namely with a *direct rejection of the distinction*, in a particularly drastic manner with the communicative practice of the Kung-an in Zen Buddhism.[63] The expectation, inherent in a question, of a specific answer that must always, as a characterization, actualize a distinction and carry with it another side, is destroyed as an expectation, verbally or brachially. This does not result in the paradox of a specific form of hopeless back and forth that is itself a form again, that is, that has another side, namely the need for an unfurling of the paradox through practical distinctions (prototype: the distinction of types or levels). Instead, the experience is related directly to the distinctionless, this with the perspective of a first-order observer. Whatever is accomplished in this way, it is not a social elaboration of differences but rather a freedom from having to make distinctions.

Europeans are accustomed to transforming foreign cultures from incomprehensible to comprehensible. Global communication has forced them to do this, especially since the discovery of America, which coincided with the invention of printing. We have experts for this sort of thing: ethnologists, Orientologists, theologians, psychoanalysts. As readers of novels and ideological critiques, we are also used to seeing that others do not see what they do not see. But rationality can only be regained if we maintain the concept's previous world-reference and refuse to go along with the new deranging, by evening out such customs with an autological conclusion, that is, by applying it to those who practice it, thereby making it universal. Then we would be concerned with understanding that we do not

understand what we do not understand, and with trying out semantics that can cope with this situation.

Tradition has called this religion. But if this concept is to be continued, then expectations would have to be replaced. What would be important then would be not a potential for security but rather a potential for insecurity. And not dependence but rather freedom: the place of capriciousness that cannot find a home: imagination.

CHAPTER 3

Contingency as Modern Society's Defining Attribute

I

The most common descriptions of modern society repeatedly refer to an unusual measure of contingency. Reference is made to social structures, for example to positive law, the government currently in power, or capital invested in the economy, but also, at least since Émile Boutroux,[1] to natural law, on which all technologies must be able to rely, and even to the use of signs in general.[2] The contemporary concept of culture implies both reflexivity in the sense of self-analysis and the knowledge that other cultures exist, that is, the contingency of the affiliation of certain items with certain cultures. Whatever happens, engagement has been reconstructed in the context of contingency. The past, though itself no longer contingent, has also been reconstructed since the eighteenth century by the philosophy of history, and since the nineteenth century by the theory of evolution in such a way that it is apparent that it, too, was once contingent.

The reference to contingency is so instinctive that it is a part of any search for necessity, for validity a priori, for inviolate values. In the contingency of this endeavor (manifest as an endeavor), these results are further transformed into something contingent—the Midas touch of modernity. This can be established in the history of the

theory of science as well as in the concept of norms in jurisprudence. "The most corrosive message of legal history is the message of contingency" is a quote found in a paper in the field of critical legal studies.[3] Talcott Parsons's sociological theory is grounded in the contingency problem and its question of how social order is possible. It seeks an answer not in the residual imperatives of a social "nature" but in the impermanence of double contingencies, defined as the dependence of reciprocal (not equal!) expectations.[4] The theory of cognition is related to its own contingency in a "radical constructivism" (however ephemeral and disputed this concept may be)[5] that no longer rules out circularity. This also overcomes an older skepticism's position that questioned only the feasibility of a constant, truth-capable relationship between perception and reality because the possibility always exists that things are otherwise, whereas today we recognize that such a relationship cannot exist at all because it leads to an information overload that eliminates any and all perception.

Equally common, on the other hand, is the impression that the individual is hopelessly subservient to the social system, perhaps even that society itself is helplessly delivered up to itself and will relentlessly destroy itself according to its own logic, if not "capitalistically" then in any case "ecologically." How important is all this contingency if it cannot be organized or employed to steer the evolution of society in another direction?

Such a wide-ranging question lies outside the compass of the following discussion. We will pursue a more limited goal and only consider what is meant when one speaks of contingency in modern society.

The concept of contingency is quickly and clearly defined within the apparatus of modal logical concepts. Anything is contingent that is neither necessary nor impossible.[6] The concept is therefore defined by the negation of necessity and impossibility.[7] The problem lies in the fact that these two negations cannot be reduced to a single negation. This would not really be a problem if negation were considered an identical operator and then simply applied to different statements. Here, however, *one* concept is *constituted* by *two* negations

that must then be used in the singular in the subsequent employment of the concept. In the Middle Ages this led to the notion that the contingency problem could not be adequately addressed using a two-valued classical logic predicated on ontology (being/nonbeing),[8] but instead required a third value of undeterminability. In a theological context this could be predicated on the mystery of creation and the inexplicable characteristics of the creator (every supreme being has inexplicable characteristics), that is, on leaving the questions of how God made the world and how He made it as it is unanswered, even though He also could have not made it or could have made it completely differently. Only in more recent times has the search for a many-valued logic been systematically undertaken. Here suffice it to mention Gotthard Günther[9] and to point to the possibility of the matrixed presentation of a multiplicity of logical values.

It remains remarkable that contingency represents a requisite-weak generalization in comparison to necessity and impossibility and that, for precisely this reason (?), it requires a *complex logical apparatus*, as if the loss of a world explicitness requires compensation through logical means. This could also explain why studies generate formalisms that are difficult to interpret via a many-valued logic or a modal logic with numerous forms of negation (which relate to the matter itself and its modalities). This is not immediately useful for understanding modern society but leads us in another direction. Without disputing such studies and the insight they offer into structural complexities, we must first ask: is there a *theory* that can make use of the *concept* of contingency?

II

In what follows we will attempt to interpret the concept of contingency by means of the concept of observation. In this way we hope to arrive at a theory that contributes to an understanding of modern society.[10]

In order to reach this goal, we must formulate the concept of observation in an unusually formal way, for only in this manner can we

forge a link to the modal theoretical concept of contingency. Observation is any kind of operation that makes a distinction so as to designate one (but not the other) side. Such a definition is itself contingent in that it depends on a distinction, since what is defined would have another meaning given another distinction (even if it had the same name).

The abstract concept of observation is not dependent on the observer nor on the method of observation, insofar as only the characteristics of distinction are realized, that is, insofar as *two* sides are apprehended *simultaneously* with *one* glance.[11] The concept transcends traditional distinctions (distinctions!): the distinction between experience and action and the distinction between the purely psychic operations that control attention and the social operations that enact communication. Even goal-oriented actions are observations based on the distinction between a state marked in intent and an otherwise ensuing state. And communication is observation as well, with the designation of information as opposed to possibilities. The theory of observation thereby goes beyond a problem that could only be solved via the traditional concept of subject and object by way of the separation of cognitive and volitive world relations, namely the possibility of making statements true by creating the initially falsely described state. As far as the theory of observation is concerned, this is simply a circular meshing of different (let us say sensory-motor) activities.

Observations of the first order use distinctions as a schema but do not yet create a contingency for the observer himself. The distinction is postulated but not designated in the designation. It is not an independent other operation. It is therefore also not intended and does not act in a way that would make it apparent that it could also be otherwise. The observer constitutes the distinction by designating, by going from "unmarked space" to "marked space."[12] And what is designated is itself directly present in the execution of the observation operation. It is meant at present and therefore appears without moralization—as that which it is.

Only *observations of the second order* provide grounds for including contingency in meaning and perhaps reflecting it conceptually. Ob-

servations of the second order are observations of observations. This can include observations of other observers or observations of the same or different observers at different points in time. Depending on these variants, social and temporal dimensions can be distinguished in the production of meaning. This makes it possible to state that contingency is a form that takes on the factual dimension of the medium of meaning, whereas the social dimension and the temporal dimension pull observations apart.[13] Or to put it another way: everything becomes contingent whenever *what* is observed depends on *who* is being observed.[14] This choice includes the choice between self-observation (internal observation) and foreign-observation (external observation).

Observations of the second order depend on a sharp reduction in the complexity of the world of possible observations: *only* observation is observed, and with this mediation we arrive at a world extant in the difference between the sameness and otherness of observations (of the first and second order). As so often elsewhere, it is also true here: reducing complexity is the means to generate complexity. Operative closure (here: the recursive observation of observations) claims indifference to everything else and can therefore concentrate on itself. This leads to the construction of an individual complexity of observing systems that can be seen, among other places, in the differentiation of the dimension of meaning and the above-mentioned problems with the logic of modalities of contingency.

Second-order observations offer a choice—and this is another example of an increase in complexity—whether certain designations are to be attributed to the observed observer, thereby characterizing him, or seen as characteristics of what he observes. Both attributions, observer attribution and object attribution, are possible; the results can therefore be considered contingent. They can be combined, for example, when an observation is believed to be factually correct but the question remains why the observed observer happens to be interested in this instead of something else.

In the modern world, more and more is attributed to the observer, at least in many cases. This could be a symptom of the fact that all world experiences are becoming contingent. Beyond the

ever-present question of whether someone else will characterize something correctly or incorrectly, one can use the observation of one's own observation to observe, characterize, and understand the other observer. A tendency toward attribution to the observed observer is especially prevalent when the second-order observation aims at latent structures and functions, that is, when it works with the schema manifest/latent (psycho-analytically, ideology-critically, science-sociologically, or even in the process of the now-common everyday observations). The fact that an observer *cannot see* something, or even that he *cannot see*, cannot be explained by an absence of information but can only be accounted for in terms of the observer himself. Intentions of detection, therapeutic intentions, psychologization, and sociologization of common knowledge take hold in this way, strengthening themselves in the process. At the same time they create a very modern form of dealing with contingency that avoids posing the question of whether what is designated "exists" or not.[15]

Observation of the second order retains throughout the operative characteristics of all observation, namely the unity of distinction and designation, that of the duality of the mark ⌉ (Spencer-Brown) or the pointer ⇻ (Kauffman), which consists of a dividing form (| or -) and a direction form (- or >).[16] The concept of observation remains invariant for the first and second orders and requires no other language (metalanguage). The executive form of the operation remains systematically uniform. And for precisely this reason we encounter peculiar comparisons and reflexive recursions of the observations joined in this manner. The system has only one operative level, but what is true for the other observer (or for the same observer at another point in time) is also true for this observer. Or at least it irritates him and leads him to make inferences concerning himself. This is why the difference between the employed distinctions and designations are conspicuous. An admission of contingency ("it could be otherwise") then seems to be the form in which the paradox of sameness and otherness, of self-diversity, can be solved. A recursive coupling of observations of observations results in "definitive attributes" that remain stable, if the system of this

practice remains extant at all,[17] and contingency then seems to be the form, or at least one of the forms, of these definitive attributes. The system, if and insofar as it is based on observations of the second order, transitions to a definitive attribute that is requisite-weak (in contrast to necessity and impossibility).

III

As this preliminary analysis should have made clear, it is no coincidence that relationships between assumptions of contingency and observations of the second order can also be historically documented. Aristotle's *Peri hermeneias* (*De interpretatione*) is the first clear documentation among ancient texts. Aristotle breaks with Plato's theoretical basis that presents knowledge only as the experience of an external impression and as remembrance of previously experienced perfect forms (ideas). Aristotle does not abandon this concept as the representation of the relationship to the external world but significantly modifies it by incorporating social and temporal differences into the conditions of observation. Whereas Plato uses the remembrance of forms as a guideline to solve conflicts of truth, Aristotle now naturally shifts social and temporal differences into a more complex modal terminology. What he terms "endech-menon" would later be translated as "contingens."

It is only natural that Aristotle's text is not written in terms of observations of the second order, but the problem is essentially present. In chapter 9 we read that statements about contingent events of the future cannot now be classified as either true or untrue,[18] because we cannot now observe what can be observed later. And this not-being-able-to-observe can already be observed. A more elaborate medieval discussion, "de futuris contingentibus," is based on these considerations. But only singular future events are considered, not form, kind, species, or genus, that is, natural constants.[19]

The question of the social dimension, how one could hold true what another holds to be untrue, also reappears on the horizon of logic. It presupposes that factual observations can be accomplished one way or another. This presupposition contradicts, however, the assumption that all knowledge is the experience of an external im-

pression, distorted by the corruption of the corresponding part of the soul. This assumption is not abandoned by Aristotle, but its contradiction of the empirically obvious state of the conflict of truths requires an innovative solution. This lies in a modification of the thesis of the passivity of knowledge. Knowledge is now no longer only, although it is still, *pathémata*. The soul has a designated, active part to play through language and writing, and this must be controlled.[20]

This problem leads to the question of contingency's absorbing of criteria of truth—which Heidegger viewed as one of the reasons for the failure of Western metaphysics—as a transition to the determination of what is to be, not through what is but through the correctness (*orthótes*) of the imagination. Such criteria of truth must be "canonically" established (even though they only control observation), because otherwise *everything* that is observed would be contingent. The assumption of such universal contingency would have contradicted the all-sustaining concept of nature (of being and knowledge). And this assumption appeared at first to be essential, because it guaranteed the being and becoming of things (in the broadest sense of *res*).

The situation changes radically in the direction of universal contingency through the Judeo-Christian invention of the creator-god. Accordingly there is only one god (although in triune form). God observes the world without being affected. Therefore the world can be contingent *for Him*, whereas *we* suffer under necessity and impossibility. And for this reason the liberation from the world lies *for us* in observing and seeing the observer God, so that only He (and not the world) is important.

God is the quintessential observer who created everything, who continually re-creates (that is, maintains) everything in the form of the "creatio continua," who sees everything, and knows everything. From the perspective of religion, God is a person with precisely these characteristics. This has to be believed. But one can also assume otherwise, namely that the attribution of personality and power serve to establish Him as the observer of the entire world. Everyone who believes this knows that he is being observed, not only in violation of his private space, that is, with data security, but also in everything

that surrounds and motivates him. God knows now, even before now, when we are in error—and leaves it be! Therefore, He also knows the "futura contingentia."[21]

The lack of exception to this insight is not a specific intrusion or indiscretion on the part of the observer but necessarily results from the observer's function as creator. This is not the reason that something exists and is not nothing. Humankind can only observe God because God observes it.[22] In this process God provides us the chance to observe Him, even though only as "Deus absconnditus," as an unobservable God;[23] and not as necessity but only as a freely conceived possibility, as a contingent good. Being observed exists owing to being observed. It has no existence outside this situation. "For I see what is your essence already present" ("Visio enim praestat esse quia est essentia tua").[24] Therefore, in contrast to the situation that Aristotle imagined, everything that is, is contingent because it is determined by creation. This can, of course, no longer be an ontologically less-valued quality as opposed to the full value of being but must be seen as the positive aspect of creation. Thus Duns Scotus: "Dico quod contingentia non est tantum privatio vel defectus entitatis [sicut est deformitas in actu illo qui est peccatum], immo contingentia est modus positivus entis [sicut necessitas est alius modus], et esse positivum."[25]

It should be remembered that the concept of observation extends beyond experience and action. Observation by God is the creation and knowledge of the world in one. In God, therefore, the characteristics of reason and will, divided in humankind, are unified.[26] God's universal competence does not allow their division (which is possible only in the defense of ignorance). God, therefore, also does not have the problem of a reasonable control of His passions. Whatever He does is reasonable—beyond what humankind can comprehend.

Out of this arise problems for humankind and limits to human observation of God. The philosophy of antiquity had, in this case, thought of philosophers who dared to observe in the brightest light.[27] But above all, theologians were employed then as now for the task of observing the observation of God. These theologians share their task with the devil Satan (or Iblis), the archangel who, out of love for

God, cannot resist the temptation of observing God. He must therefore draw a line between himself and God and succumbs to the temptation of knowing more and can only apprehend evil for himself on the other side of good.[28] In engaging in the same task of observing the observation of God, theologians come dangerously close to the devil and must therefore maintain their distance. This occurs within the values of the nobility by distinguishing between agitation and humility, through a sense of social standing, or in folk variants through a demonization of the devil—in short, through an observation of the observer of the observation of God.

But even if one distinguishes oneself from the devil as an all too extravagant observer of God and is satisfied with "docta ignorantia," the ambition of observing the observation of God leads theology to difficult, uncomfortable questions: for example, whether God can observe without making distinctions,[29] and if so, whether all observation becomes self-observation; whether God can separate any concept from Himself (a problem that He perhaps solves by establishing a trinity); whether creation is not then self-creation, sin self-sin, original sin only a practical joke on Himself with crucifixion the consequence, or if not, whether a limitation of omnipotence and omniscience is present that enables God to distinguish self-reference and external reference but at the cost of a sharp, unhealable rift through Himself.

Such questions should not be asked. Since humankind knows itself to be observed by God, it desires to observe the observing observer and should do so, as Nicholas of Cusa advises, "attentissime."[30] But this is, at the same time, entirely impossible given the physical condition of "contractio." Where God is concerned, humankind, with its knowledge, can only cross over in the direction of darkness. It can know that it only knows, because it knows that it does not know.[31] It can only see the paradox that is experienced as the greatest satisfaction when it is realized that nothing at all can be realized.

Theology has another solution for humankind (for its own exoneration). God has contrived the world in such a way that everything contingent has some necessity mixed in.[32] This limits creation's potential for surprise and belongs to its sensible contrivances.

We have occasional miracles that break through this principle, but only to remind humankind that God could have contrived this otherwise as well.

It is evident how theology avoids its own problems by crediting God, if one may say so, with humanity. Within a tradition that continues to this day, God's manner of observation is interpreted as love. "To see you is to love" ("Videre tuum est amare").[33] This does not, of course, solve the suggested logical problems in the concept of God. They are left to theological speculation. We need not attempt to answer such questions but instead can leave this temptation to theology, allowing it to get away with the mystery of the trinity. In the context of a sociological study on genesis and the meaning of modern society's semantics of contingency, it may suffice as a starting point to say that an observation of the second order of the concept of God has been established and played through as a universal principle of world construction. The attributes of God then take on the function of providing stability and the certainty of expectations to such a world of second-order observations despite contingency. Descartes relies completely on this, because his "cogito ergo sum" can be verified in true and untrue versions. God meant well, even if we know this only because our idea of God excludes any other thoughts. But if it is our idea of God, our concept, our consciousness, is not then the entire construction of observations of the second order our own construction? Can we not still observe that we must think this way when we try to contemplate God as free of contradictions? And if so, could we not then opt equally for the other side of this form?

In any case, the order can be reversed at this juncture. We are not concerned with the old question, newly revived in the seventeenth century under the name theodicy, of why God permits evil to exist and concedes corresponding freedoms.[34] We are concerned with the question of absolute evil (evil for evil's sake, independent of all conditionings), and therewith finally with the question of whether and how one can distinguish if the world is contrived for good or evil; and then the next question: why it matters.

Already in the sixteenth and seventeenth centuries protection against a direct consequence of theological controversies was sought

with the help of the concept of nature.[35] Nature seems especially to persuade the advanced sciences, directly and naturally, but also within natural law.[36] Its endowment of meaning and provision of certainty require no detour via an observation of the second order. Therein lies, looking back, only a provisorium that allows the functions systems to create very different forms of observations of the second order.

Fortunately, or unfortunately as the case may be, the evolution of society does not depend on answering such moral-theological or natural-rights questions. It goes its own way. It realizes functional differentiation via the system-variable forms of second-order observations. In retrospect it seems as if the concept of God had only provided a dress rehearsal for society, with the unexpected side effect of semantically preparing society's entry into the modern world. We are concerned with, so to speak, preparatory developments, or preadaptive advances,[37] as if we had accommodated ourselves to the contingency required later within a traditional society with the help of religion, that is, within a world secured by God. The parallels of seeing and making, imagining and producing, and research and technological development can be conceived of far in advance. This in itself presented no basic problems for modern society, but there remained the nagging problem of successful realization. The only thing that made this tolerable was the fact that the *universality* of contingency is bound to the *specification* of the functions systems[38] and to the different individual forms of second-order observations. It is precisely this that also applies to the functions system called religion.

All in all a *still unified* world description is achieved by means of a ***high mastery of inconsistency***. "Diversitas" lies in the intent of God and is a characteristic of perfection. Printing provides the first dramatization of how strong a retroactive effect these inconsistencies have, even in the doctrine of God itself and even on the level of second-order observations.

IV

The best-known attempt to explain the transition to modernity in terms of specific conditions by means of religion within a specific

theological formation is still Max Weber's. The special affinity of the capitalistic economic concept for puritan theology (Weber characteristically says "ethics") is seen in the justification of motives that would have otherwise been socially suspect.[39] Underlying this is an action-theory model. This means above all that action *always* requires motives (attribution of intent, justifications, accounts) if it is to be understood "adequately to its meaning." The question of whether this is not also a culturally dependent phenomenon and whether motives develop only when they are to be justified or in any case are to be represented is not accepted by this theory.[40] Therefore, contingency (need for justification) of purpose is already foreseen as a postulate of the theory. No motives, no purpose. The fact that all of Aristotelian tradition has taught us otherwise cannot be given its due in action theory—whatever Weber himself may have thought.[41] Action theory has it easy in postulating the corresponding need for motives for the structures of capitalistic economics it knows so well, that is, in transitioning from the macroanalysis to the microanalysis. But can it also explain macro developments based on actionlike micro conditions, for example, the development of sufficiently large, productive investments of worthwhile markets or the development of capitalistic economic techniques (double-entry bookkeeping, finance instruments, deposit banks, etc.)?[42]

Because of inadequacies in the theoretical apparatus, the ideas presented in the preceding section shift from premises based on action theory to systems theory. The operation of observation (which can certainly include action) is exemplified by a system-developing (instead of a subjective-based) essentiality. Or better yet: observation only occurs in recursive networks that require time and thereby a distinction from their environment. "Observation" and "system" are reciprocally stipulating concepts. "Observation," understood as an operation, means that such systems only consist of autopoietically produced events, that is, they only last when and as long as connective events can be produced. And "system" means that in spite of, even because of, these self-limitations, a high degree of structural complexity can be achieved.

An analysis using these concepts provides a new profile for the

Weberian account of the consequences of the "Protestant ethic." The sixteenth and seventeenth centuries were not concerned just with new, tendentially more adequate forms of justifications of motives but rather with new kinds of motive needs, motive pressures, and motive suspicions.[43] In the norm, acting is refitted to motivational foundations, and this means nothing less than being thematized in the context of observations of the second order. But no matter how important, this is only a moment of a much more broadly based adjustment to a second-order observation that affects all of society.

Observations of the second order are the *operative* basis for the *structural* differentiation of certain social functions systems. This naturally remains dependent on the differentiation of the whole system of society by means of communication. This means that society can conduct observations only in the form of communications, not in the form of conscious-internal operations and above all not in the form of perceptions. If not only the perception of the perception of others or the conscious attention to the (presumed) thought of others, but also communication itself is shifted to the mode of second-order observations, then this leads to an immense increase in socially available complexity. In this sense observations of the second order, with their semantics and their unique qualities of contingency, are, methodologically speaking, an intervening variable that explains that society can transition to a functionally oriented form of differentiation.

V

The detailed development of this investigative point of departure would require extensive work—both in formal-theoretical terms and empirically for each individual functions system. This cannot be accomplished in a short paper or even in a book. We must be content with several brief statements that point in the direction of investigation and are at the same time formulated in a way that makes the historical shift in the eighteenth century become clear.

1. The scientific system transitions to observations of the second

order by dismantling any kind of proclamatory authority for truth and replacing it with the medium of publications. Publications are fashioned in such a way that, whatever the knowledge base, the appropriate knowledge gain can be observed; that is, one can observe how this has been observed. In traditional scientific theory this was the expected result of methodological discipline and the exclusion of subjective interference. New research shows that the preparation of publications, in contrast, has a very independent, selective, even stylistic meaning. Production and representation of the growth of knowledge come together, and while the researcher executes his research, he remains an observer of the first order, that is, he sees directly whatever shows itself to him. He must also demonstrate in the medium of publications that he has considered the state of research, that is, has observed what others have observed. He must show that he has put his own presentation together with a care that enables others to observe how and what he has observed.[44]

2. At least since the beginning of the nineteenth century the artistic system has been shifting toward second-order observations. The idea of a representation (*imitatio*) of something that is outside the artistic system has been abandoned and replaced with an emphasis on the forms realized in works of art (distinctions) that coordinate the creative or viewing observer. External comparisons are replaced by the apprehension of internal distinctions (opposition, contrasts, etc.). The area that is accessible to art expands and is only limited by the standards of artistic work. The autonomy of art then lies in the fact that it only limits itself. The final criterion remains: does the observation succeed in seducing someone to observe. The system uses words in poetry, materials in the plastic arts, the body in dance, and things that exist elsewhere, and incorporates external references; but these are disciplined by their internal use, which aims to enable the observation of forms. They are once again placed in the service of second-order observation.[45]

3. In the terminology of political theory we still find the old vocabulary of rule (democracy, sovereignty, supremacy, etc.). Actually, even this system has adjusted itself to observations of the second order since the nineteenth century with the help of a regular and con-

tinual orientation toward public opinion. This in no way means that public opinion is the actual power within the state, as was believed in the final decades of the eighteenth century, but rather that it acts like a mirror in which politicians can see how they themselves and specific issues are judged;[46] and political elections, again not in any case an instrument of rule, lend credence to this orientation—simply because it has not yet been determined whether or not it matters. This is precisely why the tenants of the heights of the state hierarchy are contingent, even though everything depends on their power, for only in this way can the focus on public opinion and the constantly changing observation of government and opposition be guaranteed in full view of the public.

4. The economic system is oriented to the mode of second-order observations. It looks at market prices and registers whether the competition is offering other prices and what trends can be deduced from these price changes.[47] This is why the configuration of prices cannot be "fair," for each external measurement would hinder the observation of the observation of others or force them to take less effective routes; nor can the market price in question conform to aggregate data or political-economic goals, because this, too, would make it more difficult to enable the observation of observations, if not block it altogether. Here, too, the relationship among observations of the second order, the contingency of prices, the segregation of the system from the environment, and autonomy in the sense of self-limitation is clearly visible.

5. In the legal system the critical development lies in the full positivization of law, that is, practically, in the replacement of the distinction between natural and positive law with the distinction between constitutional and normal law made at the end of the eighteenth century. This leads to a situation where law is observed with a view to the question of how something was or will be decided. Interpretation and prognosis are forms of the production of texts from texts and therefore forms of second-order observation. This in no way implies randomness, as the decisionism reproach would have it, but is self-limiting. For randomness cannot be interpreted or prognosticated.

6. The modern family belongs to one of the most impressive, intimately experienced systems with second-order observations.[48] The medium of love, used in communication for the making of families (whatever is thought of psychic realizations), leads to a situation where every member must consider how he or she is observed by others.[49] In this regard indifference is the obvious symptom of absent love, whereas love abandons itself to the circle of double contingency and then unavoidably "alienates," that is, settles on symbols of the unfolding of this circle, on the avoidance of difficult points, or on paradox communications. As is always the case with second-order observations, this does not mean that consensus (or even an attempt to build consensus) is prescribed and that it acts as a test. Love shows an abundant ability to validate the other as an other and to restrict one's own observations, above all action, of the observed otherness of the other's observations. In each case the individual family finds its own systemic borders in the inclusion of persons within this mode of second-order observation, which is why there is a great number of families and not a collective system of a societal family.

7. For the education system it is best to focus on the semantic invention of the child, whereby it is disputed to what degree this is to be situated in the seventeenth or eighteenth century.[50] Whereas the child was previously seen as a natural phenomenon of the species of humankind, as a small, not yet finished person, and education was tasked with guiding this development, enhancing it, or preventing corruption, now the observation of the child is observed in order to gain insight into an appropriate education for children. This may be realizable for family education. School-bound education is easily overtaxed; but it, too, demands in methodological (didactic) terms that we proceed from the cognitive abilities of the child.

With all the obvious differences that result from the different functions and codings of these systems, remarkable similarities appear, as with "deep structures" of modern society. It is well known that the comparability of differences can be increased with theoretical methods. Here we are concerned as well with an assertion about modern society. This type of society no longer conceives of

itself with preeminences of single components—with nobility or the state. The effect of the social relationship shows itself in the nonrandom consequences of the autonomy of functions systems. They prove themselves to be similar despite all their differences (and in this specific sense, as modern) because they have achieved operative segregation and autopoietic autonomy. This is not possible except in the form of arrangements that require, among other things, an observation of the second order as a systems-carrying normal operation. This explains the conspicuous finding that this society accepts contingencies like none other before it.

Its functions systems require no religious support for its operations. Coincidences with religion, such as coincidences of ethnic and religious attacks on a given national formation, can be shrugged off as chance or as regional peculiarities. This has been true since the late sixteenth and early seventeenth centuries—for the relationship between church reform, consolidation of the territorial state, justice reform, and the forced, specific semantics of nobility. Transitional phenomena of this kind are not lasting, and regional peculiarities are not universally applicable.

The functions systems work, to use another word, in a secularized manner; or at least this is the concept used to describe the phenomenon of religious systems. In light of the historical significance of the Christian religion for the universalization of the semantics of contingency, "secularization" is at the same time a historic (specifically contemporary) definition, an "idea-political concept." But the functions systems each have contrived their own forms of observations of the second order and therefore have their own experiences with contingency. Correspondingly, society allows the individual, if he wants, to live without religion, and to live well.

Only: the contingency semantics of functions systems are open to the future. They do not preclude that what is assumed could be different and could be redefined through communication. Its own autopoiesis requires an employment of operations without final certainty—based alone on what is momentarily at hand and convincing or is accepted as fact, such as stock-market prices, the unapproachability of one's spouse, or the sensational success of intellectual acro-

batics. This may, if we can once again call on Émile Durkheim's idea of social integration through religion, result from the fact that there are no longer any socially necessary forms for the social coherence of functions systems, for their reciprocal limitations. Sociology's own diagnosis of the present is limited in time, as intent on discontinuities that have passed or are to be advocated.[51]

Even religion cannot change this fact. It does not determine what prices are politically opportune or just and beneficial to familial happiness, or which theories can be used militarily or industrially or are suitable for making education attractive. All of this must be left to momentarily arising coincidences. Otherwise autopoietic autonomy and self-dynamics would be greatly limited, would lose performance, and would finally become corrupt in the old sense of the word. Necessities and impossibilities no longer represent the orderly framework of the world. They are only modalities that must be accepted for reasons of time.

Religion has, for precisely this reason and by following this schema and its deep structures, its own nonintegratable functions. It cannot determine, but it can irritate other systems occasionally. Conviction can be communicated only through religion, that is, can lead out of a form of simple individual obstinacy. No other social functions system can convey the conviction and can make communicable that what we do is in the final analysis good—whether this be terrorist activities or hotel management, the construction of new weapons or new theories or a successful rhetoric of political programs, the influencing of the education of one's own children or the hopeless, anonymous search for a personal style in art.

And this, too, belongs in the context of modern society: that we fight against the contingency of our own actions in this way and are not disturbed by the fact that our own observations are being observed.

CHAPTER 4

Describing the Future

I

The formulation of my topic may seem somewhat strange. In talking about the future, we normally think of prognostication. We would like to look ahead and prognosticate whatever lies there. This desire dates back at least as far as Mesopotamia. Or the future is seen with a view to the effect of effects. We would like to create certain circumstances that would not otherwise exist on their own. On the one hand we have the problem in the present of a true understanding of principles; on the other hand is the problem of means and costs. But why should we describe the future? And how can we do so when what is to be described is not yet visible in the present?

This is precisely the problem that is to be examined here. At the same time, there is an intentional distance to perspectives of knowing and wanting. We will take a step back from the question of how we can describe the future and ask first: how can we know what the situation will be like in the future? And: how can we want something from a future that does not even exist yet? Or put another way: in what forms does the future manifest itself in the present?

My point of departure is that there is no right answer to any of these questions. All statements about the future depend on the society in which they are formulated. Concepts of time are concepts of history. This is undisputed among historians, ethnologists, and sociologists. Today we must live with extremely insecure perspectives of

the future, and this insecurity has its basis not in God's plan of salvation but rather in the system of society that must justify itself. Metaphorically we speak with apocalyptic perspectives—the setting sun of theology casts long shadows—but we also know very well that society's future is a problem that can only be formulated and decided within society.

II

One way to understanding the current situation is to compare it with older forms of descriptions of the future. It is certainly not true that the future is an invention of modern times, although in earlier times one spoke mostly of things to come—"de futuris"—in the plural as opposed to the singular. But the degree of variability has increased along with the complexity of the social system, and this determines the semantic forms that must be considered for a description of the future.

Until far into the present age, social life was experienced within a cosmos of essences that guaranteed the constancy of forms of being and the elements and thereby also the order of scale. This cosmos could be described as nature or as the creation of God (and in each case only religious powers held sway over essences and substances). Nature saw the future as the final form of movements, as the perfection of nature, and any uncertainty was related to possible corruptions, to chance events, or to a natural variability that was itself not necessarily related to nature, not to substances but to accidental properties.[1] With all the constancy of forms of being, what was important was a variation on the level of events. An early death was a daily occurrence that did not, however, affect the existence of humankind. Whatever was tried in this world could go wrong. People were delivered up to good luck or bad luck. Life was experienced as endangered life. History was to be reckoned with not in a substantial but in an accidental way. In light of constant forms of being and good purposes, one could learn from history and withdraw to concepts of virtue (especially in the early modern period) that recommended steadiness, robustness, and ataraxia in holding on to what was right. The uncertainties of the future stayed within the frame-

work of a fundamental regulation of the world as the entirety of invisible and visible things. The "harmonia mundi" was beyond question.

This model could no longer be maintained in modern times in view of an increasing complexity of society and its knowledge. Signs of corrosion and criticism have been observable since the eighteenth century. As Arthur Lovejoy demonstrated in a famous monograph, the hierarchical order of beings is turned on its side and temporalized.[2] For essentially logical reasons, the world can only have come into being as a historical-length sequence to which even God, the creator, had to submit, and so it is by no means finished. In this way perfection was followed by perfectibility, although with much less certainty as to whether perfection could ever be achieved. Rousseau's *Emile*, the grand efforts of education in only one case, offered one perspective.

At the same time there appeared a newly conceived trust in the future. Human action was conceptualized as a parallel construction to creation with the same archetypes but with better results. The rigid framework of creation was set into motion through the idea of progress and the criterion of utility. In the time between John Locke and Jeremy Bentham, the principle of utility itself was secularized and thereby rewritten to historically variable preferences. History was finally reconstructed as evolution, with the result that the substantial could be explained through the accidental, through the employment of coincidences. The wisdom of common law is seen in a long history of the determination of individual cases—from Coke to Hale to Hume—and not in principles or determined forms of essence. Concepts of substance are replaced by concepts of function (a process that can itself be explained as an exchange of functions). The concept of humankind as a species of nature was replaced by a double concept that in both variations allowed more latitude for individuals: through the concept of the subject that acquires the world for itself according to its own methods and through the concept of a population that improves itself by selection on an individual level with the result that only the strongest, prettiest, most well adjusted have a chance in the future.

Given this background, it must be understood that modern soci-

ety was able to bet on the future from the beginning of its self-awareness. It was no longer the caste society of tradition, but it was also not yet that which awaited it in the future. It found itself balanced between no longer and not yet. Romanticism formulated this as poetry. Political theory directed corresponding hopes toward constitutional theory and the liberation of freedom. Economic theory believed that it could determine circumstances of growing prosperity. All in all we have the impression that around 1800 the impossibility of describing the new structures of modern society would be compensated for with projections of the future. Until well into our own century, there is talk of the unfinished project of the Modern and demands for more democracy, more emancipation, more opportunities for self-realization, but also more and better technology—in short, more of everything that was promised to be the future. Both in the technological and in the humanistic, society described itself in the projections of its future.

But is this Modern, is Habermas's Modern, still our Modern? Is the society that employs the embarrassment of its self-description as a projection of a future still our society? Can we—and it could certainly be asked: must we—hold such a view of the future because we could not otherwise know who we are and where we stand?

After well over two hundred years of self-inspection, modern society has at its command better, more realistic means for self-description. It can in any case perceive more and more structural effects. These can be self-induced because they are inseparably linked with the institutions on which the continuation of social reproduction on the achieved level depends. It began with the observation of the consequences of the Industrial Revolution: more wealth and more poverty than ever before, remarks Hegel in his lectures on the philosophy of law.[3] And already before the French Revolution, Minister Necker, experienced in practical matters, thought that, in light of the situation, the traditionally stable ideas of virtue and harmony had failed justice.[4] The new fanatization of the absolute as a party platform and the corresponding dissolution of any unifying semantics in ideologies following the French Revolution are also consequences recognized early on, along with the legitimization of

unselfish crimes. These aspects drove Friedrich Schlegel back into the arms of religion, the only thing that can bring true happiness (or at least rest).[5] But in the meantime there have been more such irritating insights. Consider the burden placed on the economy and law by the well-intentioned, politically nearly mandatory welfare state or the overarching ecological consequences of technology.

Today we find ourselves in a completely different situation from that at the time of the Enlightenment, the French Revolution, or Prussian New Humanism. We can better describe contemporary society in its consequences, even if we do not yet have access to an appropriate social theory, and therefore we are concerned when we look to the future. This does not necessarily concern the individual in everyday life, retirement demands, or, to the contrary, the deep sense of hopelessness that most people must deal with. But we ask ourselves, and public opinion asks, What will become of humankind, of society? What living conditions will "future generations" face—provided that a comparable humanity even exists and not some gene-manipulated, normed humanoids who are differentiated according to programs?

As never before, the continuity from past to future is broken in our time. Novalis already described the present as "the differential of the function of future and past,"[6] and the poetry of the romantic period appropriately dealt with metaphors and settings that could safely be assumed to be disbelieved by all. The present actuality, especially of the early romantic, might be explained by this. But these settings, pointing to the transcendental, are no longer useful. This is most certainly true of poetry, that is to say, of trusting in words, in language, in a fixed meaning. We can only be certain that we cannot be certain whether or not anything that we remember as being past will in the future remain as it was.

But that is not all. We also know that much of what will be true in future presents depends on decisions we must make now. The two are related: the dependence of future circumstances on decision making and the break of the continuity of being between past and future. Decision making is possible only if and insofar as what will happen is uncertain.

This deterministic relationship, which keeps us undetermined, can be made clearer with a quick glance back to antiquity. The contrast is evident. Aristotle also admitted, in a famous text (*Peri hermeneias* 9), that he could not know whether a future sea battle would take place or not. This was the point of departure for a long-winded medieval discussion "de futuris contingentibus." But Aristotle saw no difficulty for decisions, since he had related the problem not at all to the dependence on decision making[7] but rather simply to the possibility of characterizing statements as true or false. His recommendation was not, therefore, not to risk a sea battle, but instead to forgo judgment, as if it were already determined that the sea battle would or would not take place, although one could not know which. Our problem would be: should we risk a sea battle or not?

III

If for our description of the future we look to what is at present intellectually à la mode and what appears to be acceptable or unacceptable, we must distinguish a possible strategy, a factual, a social, and a timely dimension of meaning. In respect to the factual, it seems that the reference of all sign usage, all use of language, all information processing has become a problem. This begins with the replacement at the end of the eighteenth century of the old theory of ideas with language theory; it can be seen in romanticism's realistic settings, in Saussure's linguistics, in the critique of logical empiricism by Quine, in the play with a referenceless semiotics, as with Roland Barthes,[8] but also in the theory of operatively closed yet cognitive systems, as in the biological epistemology of Humberto Maturana. Reality is in no way denied, and no supporter of this trend would think of making the old mistakes of solipsism. But the guaranty now lies exclusively in systems operations, and these must adhere to what they succeed at—as long as all goes well. Internally one can distinguish between self-reference and external reference, but only internally, only in a kind of prime difference of internal operations and consequently in a different way in each different sys-

tem. Every teleological perspective of the future, the natural as well as the mental, is radically abandoned with the apt concept of autopoiesis. Intention and purpose are only the self-simplifications of the systems. And the discrepancy from reality shows itself in unexpected side effects, for which the costs cannot be planned. All is well, as long as all goes well. This is the message. And the technical advice aims at a change of preferences.

In the social dimension something similar exists in the form of a loss of authority. Here, authority is defined as the ability to represent the world in the world and to convince others of the same representation. Authority can be founded on knowledge or power or on the knowledge of the future or on the ability to create it according to desire, in any case on the future. This becomes apparent only when the security that extends beyond the present is removed. As long as authority still holds, it works, to use a formulation from Carl Joachim Friedrich, as an insinuated "capacity for reasoned elaboration."[9] Only the resonating argumentation remains. This argumentation may even become more esteemed, at least in certain circles. But authority lay in the fact that, on the basis of knowledge or power, this argumentation was superfluous.

Something seems to have taken the place of authority that could be termed the politics of understanding.[10] Understandings are negotiated provisos that can be relied upon for a given time. They do not imply consensus, nor do they represent reasonable or even correct solutions to problems. They fix the reference points that are removed from the argument for further controversies, in which coalitions and oppositions can form anew. Understandings have one big advantage over the claims of authority: they cannot be discredited but must be constantly renegotiated. Their value does not increase but instead decreases with age. And this, too, makes it likely that the real problem of modernity lies in the time dimension.

In the dimension of time, the present refers to a future that only exists as what is probable or improbable. Said another way, the form of the future is the form of probability that directs a two-sided observation as something more or less probable or more or less improbable, with a distribution of these modalities across everything

hat is possible. Modernity has invented probability calculations just n time to maintain a fictionallv created, dual reality. The present an calculate a future that can alwavs turn out otherwise. The pres-nt can in this wav assure itself that it calculated correctly, even if hings turn out differently. This assumes that we can distinguish be-ween the future (or the future horizon), the present as the realm of he probable and improbable, and the future presents that will al-vavs be exactly what they will be and never otherwise. This break between the present future and the future presents does not neces-arilv rule out prognoses. But their only value lies in the quickness vith which thev can be corrected and in knowing what is impor-ant in this regard. There exists, therefore, only a "provisional" fore-ight, and its value lies not in the certainty that it provides but in the uick and specific adjustment to a reality that comes to be other han what was expected.

Currentlv, decisions can only be made with a view to the proba-le and improbable even with the knowledge that whatever happens vill happen as it happens and not otherwise. To translate back to the social dimension: what can always be assumed, in all attempts to be understood, is the uncertainty of the other side. If someone denies this, it can be proven. Negotiations can then be defined as an attempt to increase uncertainty to the point that the only option that remains is understanding one another. This corresponds to the modern type of the expert, that is, someone who, when asked questions he cannot answer, can be led back toward a mode of uncertainty. This also corresponds to the modern figure of catastrophe, that is, the occurrence that no one wants and for which neither probability calculations nor risk assessments nor expert opinions are acceptable. This threshold of catastrophe is always defined in social terms, and the catastrophe of one is not necessarily the catastrophe of all.

IV

All of these considerations can be summed up in a final *risk* formula.[11] Modern society experiences its future in the form of the

risk of deciding. For such a formulation, we must appropriately define the concept of risk with a precision that is seldom achieved in the far-reaching field of present-day risk research.

What must be emphasized above all is the association with decisions and thereby with the present. A risk is an aspect of decisions, and decisions can only be made in the present. We can naturally speak of past decisions and also of future decisions. But then we refer to past or future presents and not the present past or future that is no longer or not yet actualized. Risk is therefore a form for present descriptions of the future under the viewpoint that one can decide, with regard to risks, on the one or other alternative.

Risks concern possible but not yet determined, or improbable, losses that result from a decision. These losses can be effected by a particular decision and would not result from any other decision. We speak of risks only when and insofar as consequences result from decisions. This has led to the idea that risk is avoidable and that we can play it safe if we decide differently, for example, if we decide not to install nuclear power plants. This is, however, a fallacy. Every decision can cause unwelcome results. Advantages and disadvantages as well as probabilities and improbabilities are distributed differently according to what decision is made.

Insofar as situations can even be thematized under the viewpoint of decisions and risks, there is no escape. The logic of situational definition transfers itself to all alternatives. We are concerned with a universal principle of the thematization of time and future that only allows variations in regard to the extent of loss and probability, that is, the usual risk calculations.

To the extent that society imputes decisions and a corresponding mobility, there are no longer any dangers that are strictly externally attributable. People are affected by natural catastrophes, but they could have moved away from the endangered area or taken out insurance. To be exposed to danger is a risk. We do not have to fly, although there is much to argue in its favor; we are, after all, mammals who can live without flying.

Additionally, the concept of risk considers a time difference, namely the difference between a judgment before and a judgment

:ıter the occurrence of loss. And it aims directlv at this difference. Kiskv decisions are only those that would be regretted in the case of oss. In management science this is called postdecisional regret. This ıoes not include onlv those cost increases that do not lead to deci-:ıonal regret. Rather, the concept aims exactly at the paradox of the :ontradictorv judgment before and after the event. In the language ɔı romanticism. one could already formulate this anticipation of a :ubsequent revaluation. "He set his illuminating presence deeply in : ruture. shadowy past," is said of Albano in Jean Paul's *Titan*.[12] For omanticism this was an impetus for reflection, for a reflection of nood. even for sadness. Our contemporaries take photographs. Iowever one sees this paradox of the simultaneity of opposed views ɔı time. the paradox is itself, as logicians say, unfolded by time itself, hat is. solved by the time differential, with the result that at every ɔoint in time there exists only *one* plausible judgment. The concept ɔı risk annuls this wav of life, this sequence of different judgments. t unifies contradictions in the present, lets the paradox reappear and :oives it another wav, namely through rational risk management. If he improbable happens, one can defend oneself with the argument hat one decided correctlv, namely in a risk-rational manner.

We see that we have defined. in the concept of risk, a multidi-nensional. complex problem with regard to logic that cannot be :aequately dealt with in terms of the relatively simple classical two-'alued logic. As demonstrated by Elena Esposito,[13] this problem requires a structurally richer logic. The practical consequence is that risks can be observed in very different ways, according to how distinctions are weighted. The problem therefore returns to the social dimension, to society, and finally to politics. And unlike the cosmos of Einstein's flying observers, a mathematics of recalculating one perspective to another is unavailable.

There are numerous indications that modern society is actually precipitating its future in the form of a present risk. We need only think of the possibility of *insuring* ourselves against many different kinds of accident. Insurances do not create any certainty that an accident will not happen. They only guarantee that an accident will not alter the financial status of the victim. The economy offers the

opportunity to insure ourselves. But we still must make a decision. All *dangers* against which we could insure ourselves are thereby transformed into *risks*. The risk lies in the decision to insure or not to insure.

Other kinds of risk problems result from a general participation in the economy. Between income and expenses there exist, as there do not in direct barter, distances in time, because we can give out money only after having obtained it, or because we invest money in the hope of earning more. In modern society a part of these risks is taken by banks, but even in everyday life an economic risk is present, hidden only by the fact that to a large extent it remains undetermined what needs and wishes should be fulfilled with moneys received.

A final example can be taken from politics. In older societies the difference between rulers and ruled was thought to be a *natural* order, and it was assumed that nature would not allow something arbitrary; that pure chance was impossible. Or it was believed that the ruler was emplaced by God and could then, in difficult cases, lift his eyes in prayer to heaven. Today, in contrast, the occupation of all offices, including the highest, is a matter of decision making. And this turns the danger of the misuse of power or of making politically wrong decisions into a risk.

The adaptation of dangers into risks is, as these examples show, the counterintuitive, unwanted purpose of many institutions of modern society that were conceived for completely different reasons.

The thematization of risk bridges very different situations. In its logical complexity and the paradoxical unity of risk is mirrored, it could be surmised, the complexity of modern society that can only describe, or then again not describe, its future in the present. Do the semantics of risk take the place of earlier societies' calculations with God?

We are prevented from drawing this final conclusion by an insight that also concerns the limits of risk semantics. In ecological contexts we find ourselves faced with a complexity that defies an attribution of decisions. We know, or at least can presume, that important ecological conditions for life can be changed by the em-

ployment of technology and its products, with the prospect of grave ıarm. But we can hardlv ascribe this problem to individual deci- ıons. because the extremely complex mesh of causes of numerous actors and the longevity of these trends do not allow such an attri- ɔution. The fascination with technology, decision making, and the ısk svndrome goes to the point that we even try to capture it in our emantics. We incessantlv search for decisions, be they political de- ısions with which we counter this problem, or evade it, or in any ase trv to neutralize or delay it. We define as a risk not doing some- ning that could possibly help. It would be inconceivable, even irre- ponsible, to not try what is possible, even if only to redistribute the ısk. Nothing speaks against it and everything for it.

Nevertheless we recognize the inappropriateness of all attempts o solve problems of this nature with preference shifts in the sphere ı decision making. Social evolution will decide on future presents, ınd presumably it is the prospect of an unavailable fate that feeds the ıagging worry that we can only satisfy on the surface in risk taking ınd risk communication. We no longer belong to the family of ragic heroes who subsequently found out that they had prepared neir own fates. We now know it beforehand.

CHAPTER 5

The Ecology of Ignorance

I

By now one thing is clear: evolution has always been to a great extent self-destructive, both in the short and the long term. Little remains of what it has created. This is true of most life forms that existed at one time or another. Similarly, almost all cultures that have affected human life have disappeared. The meaning they held for those who lived with them is barely recognizable—despite all the archeological, cultural-anthropological, historical-scientific tools we now possess. The once-contemporary mentalities are no longer self-evident or remain highly artificial fictions at best. We relate to these past cultures almost as tourists. Cultural forms that are self-evident today and the "world" of today's society will meet a similar fate. No one can seriously doubt this.

It is not impossible but rather probable that humankind as a life form will someday disappear. Perhaps it will replace itself with genetically superior humanoid life forms. Perhaps it will decimate or eradicate itself through human-made catastrophes. Or maybe it will destroy the common technological devices we take for granted to such an extent that only a very elementary form of survival will remain possible. In any case, future societies, if they can continue to exist on the basis of meaningful communication, will live in another world, will be based on other perspectives and other prefer-

·nces. and will be amazed at our concerns and our hobbies and see n them little more than mildlv entertaining oddities—insofar as races and the abilitv to read them remain at all.

Such a future seems unacceptable to us, a horrific scenario that ve can contemplate only insofar as we regard it as "fiction" and as·ume that it will turn out differentlv. Whoever looks to what is to come without a gesture of dismay is dismissed as a cynic. In commu·nication this perspective seems to have been invented to annoy oth·ers, so that one might relish their consternation. Anyone who jumps rom the Eiffel Tower. knowing how it will end, does not really en·oy the fall.

Completely different and yet similar is the case of technologi·ailv caused catastrophes that arise completely by surprise, if they ·rise at all. The current reply to the question, where do I run?, is the ·ssuaging answer: it won't do you any good to run anywhere. This is vnv ignoring the problem seems only natural. The population is ·repared for catastrophes through ignorance, the government hrough secret "X files." This is true not only in wartime but for ·ther catastrophes as well. The problem is dealt with as a long-term ssue with the rationale that a catastrophe, while always possible, is ·ot verv likely to occur tomorrow.

Are warnings and precautions the solution? There was always a igure of reflection in old proverbs that predicted that anyone who ried to avoid a prophecy would thereby actualize it.[1] To avoid this, he divinatorv illumination of the future needed the reinstatement ·r darkness in the oracle's voice. Even then people had their doubts. Pindar called on the goddess of fate, Tyche; no god can give mortals a sure sign.[2] But this is part of a world now gone. We try with all our might to save ourselves when bad things loom ahead. Apparently we allow ourselves to be influenced by other relationships to time and to our own abilities. But this does not free us from the paradox of warning: a warning, if successful, prevents us from determining whether what we were warned of would have occurred at all. And this (perhaps unnecessary) warning incurs the costs and unforeseen consequences of avoidance behavior.

Sociology as a science, with its corresponding demands, has shown little inclination to wisdom. It does not darken its prognoses.

Since the success ratio of its prognoses is slim in any case, this might be excused. In view of the complexity of ecological threats and technological risks, it has shifted more toward admonition. The urgency of the problems—and who would dispute them—excuses the lack of reflection on admonitory activity[3] and also excuses the deliberate exaggeration of rhetorical devices. As usual, sociology criticizes society.[4] It demands that more attention be paid to the consequences of technology, to its risks and dangers. It demands a redirection of resources. But with this dim perspective of the future, it has forgotten an important part of its tradition, even one of its founding objectives, namely the answer to the question: what's behind all this?

Beginning with Marx, it has always been a part of sociological reflection to analyze the world of social manifestations not from the perspective of the participating first-order observer but rather from the perspective of the observer of such observers. This originated with the sophistics of the nineteenth century,[5] but also makes great demands on theory. Marx thus explains the formation of classes by way of capitalistic economics, specifically the form of factory organization. In this way, through the functions differentiation (then still the division of labor) of modern society, Durkheim explains problems that we have today with social solidarity and morals. But these are internal problems of the social system—fairness of distribution or solidarity despite differentiation. The ecological problems of concern today have a different form. They are based on the relationship between the social system and its environment. Now more than ever the old question seems appropriate: what's behind all this?

In a very general sense the answer is: the form of differentiation of modern society, that is, functions differentiation. It is easily made plausible that the effects of social communication on the environment increase with the form of functions specification, but that at the same time the possibilities for reacting internally cannot keep up. Thus the problems are dealt with not where they are caused but instead in the corresponding functions system.[6] If this is true, then it might be possible to deduce the forms that communication about ecological problems in modern society would take.

In the main, what follows from the logic of this differentiation is

the development of forms of demand and request *addressed to others*, namely to systems that supposedly have this ability. Some of this is disguised as "ethics." But when it is assumed that those who make demands are not themselves in a position to provide assistance, then a critical moment of all ethical regulation is missing, namely self-application or the inhibition of self-exemption. The ethics of responsibility apply only to others. One can formally subject oneself to them, but self-application is not an option because of the lack of any consequential authority for action.

These considerations remain superficial, however. The following analysis will attempt to probe further into the prepared terrain. The question, what's behind all this?, can be asked more precisely if one asks: how is ignorance dealt with? The rhetoric of alarm on the one side and the resistance in light of necessity on the other side are both based on a supposed knowledge. But the lively, often unintelligible style of the controversy betrays the fact that this knowledge is based on uncertain assumptions. This can be recognized relatively easily. But this prompts the hypothesis that the intensity of ecological communication is based on ignorance. That the future is unknowable is expressed in the present as communication. Society is irritated but has only one way to react to its irritation, in its own manner of operations: communication.

I

To take a step further we want to pursue the question, what is implied and what is to be expected when ecological themes make their way into the descriptions of modern society? Some of the peculiarities that crop up in the present discussion, which have already been alluded to in the previous section, may be better understood if two things are made clear: (1) Every description of society must take place within society; that is, it is subject to observation, and this observation, at least today, is reflective. (2) Every description is bound to the basic structure of the operation of observing and can therefore not overcome the limitations this implies. All this taken together allows us to understand why the ecology of ignorance is offered as the (controversial, of course) ecology of knowing.

I will speak of observations and, in the case of texts, of descriptions, when distinctions are to be employed to define something (and not something else). It is critical how this operation of observing is realized—whether through a conscious disposition of attention, as in the process of perception or action, or through the communication of certain themes, or eventually through operations of electronic machines. The basic structure in all these cases is the same, and this is already enough to advance our topic.

Every observation causes one side of a distinction to be designated and, consequently, for the other side to remain unmarked.[7] The world is divided into marked and unmarked spaces. If there is enough time, one can cross this boundary (the form of the "mark")—but only by marking something on the other side, that is, by distinguishing and designating and thereby constituting another unmarked space. The operation of distinction itself remains unmarked. It cannot appear itself on one of its own sides. It therefore belongs to unmarked space; it operates, so to speak, from the unmarked space in which the observer remains.[8] The observer is unobservable because he cannot recognize himself as a moment of his own distinction, as one of its own sides.

We normally do not use such abstract terminology when speaking of social theory. We speak of the time of the French Revolution in terms of historical (for example, Old European) semantics, the nineteenth century in terms of ideologies—whereby, according to Koselleck, the ideologizability of expressions was itself made a turning point in historical semantics.[9] Regardless, semantics and ideology are expressions of an observer of the second order who describes how and what an observer of the first order observes. The first-order observer distinguishes and signifies directly what he means. He says what is true for him, and when he speaks of the ideologies of other observers, he does so because it is for him a fact that others experience and act according to the rationale of ideologies. (This would still be the case even if there were a universalization of the suspicion of ideology and, might one say, the angelization of the second-order observer as an incorporeal intelligence.)

The abstraction we gain with concepts like observation and description and consequently with the concept of the social system's

self-description has, above all, the advantage of making us independent of historical limitations and specific social situations (social classes, social locales, social interests). Every observer constitutes, by making distinctions to signify, a world that is for him unseen, an unmarked space from which he must operate and to which he and his operation belong. This is, as such, not a historically relative phenomenon (insofar as one wants to observe the possibility of observing operations not as a product of evolution but instead as the a priori of all relativisms). That historical semantics and ideologies can be analyzed in this way cannot be proven here in detail. What interests us is the relationship between marked and unmarked space in an ecological description of the social system.

For the first time in the history of social theories, the ecological description of society underlies a clear distinction between system and environment. Critical here are the causal interdependencies that could not be represented if distinctions were not made. Society intervenes in its environment, so it is said, in a way that leads to important changes in the conditions of reproduction, and these in turn affect society. This is the distinction that guides the placement of the designation. But where is its unmarked space?

Since we are concerned with a description of society, the unmarked space lies in the environment of the social system; and yet we collect more and more ecological data. But it is precisely this activity that leads to ignorance about the relationship between society and its ecological environment. We make use of scenarios and simulations only to fall short in our ability to make even unrealistically uncomplicated prognostications. We categorize disturbances as mistakes, as if we only lacked the correct knowledge or the ability to apply it.[10] We limit ourselves to statements about probabilities or improbabilities, yet the means to calculate these remain disputed and require adjustment from one minute to the next. We can quite ably predict and cause destruction—in the form of wars or in the form of technological catastrophes that arise from a chain of events and oversights easily recognized in hindsight.[11] But destruction is not exactly something we desire, even if we possess the knowledge to make it happen.

This kind of ignorance is not itself unmarked space. It is first and foremost only the other side of a form of knowing—another side that suggests a crossing of the boundary, thereby stimulating efforts to know more of one or another (signification-capable) aspect. The knowing of ignorance hides, for its part, as does Nicholas of Cusa's "docta ignorantia," the space beyond all distinctions. The unmarked state that avoids all observation remains inaccessible through the accessibility of the mode knowing/ignorance. This mode of the circumstances of reproduction is a consistently strong interference in the ecological balance that has proven itself in evolution. In descriptions of the cosmos or the creation of nature there was once an inexplicable moment of order—that is, the fact that this order exists—that covered up the unobservability of the unity of all distinctions (at that time: divisions). Today ignorance is at the same time the other side of knowing. Whereas assumptions about the equality of nature in the cosmic and human worlds, or analogies of being, and so on, previously had a calming effect, one is today disquieted by the futility of attempts to achieve clarity on the relationship between social systems and the environment. We must assume today that society is not set in forms of essence, necessities and impossibilities, species and genera—especially not if it takes its ecological problems seriously—but instead *will and must change if it is to be successful.*

Another situation requires another observer. This does not change the fact that the observer cannot observe himself in the operation of observing and describing. The question therefore is: *how* does he observe, if he cannot incorporate his own observations into the distinctions he uses, but instead must formulate them as if he were able to observe from without, from the unmarked space?

The ecological description of society apparently tends toward binary extremes, at least to the point that each part cannot name the unity of its own distinction. This is certainly true for the clear choice between survival or destruction. For the first time in history we can destroy the entire planet's population, including all forms of life, with a single act; this leads us to the conclusion that preventing such an event would be a good thing. How obvious. The extremes of content repeated in all topics of smaller scope follow the moral

extreme. It sorts the good, those against ecological disaster, from the bad, those who, even though they may not desire it, allow such a disaster to occur anyway. The objective, then, is to warn of the consequences of the status quo. Using these binary extremes means that one must either listen to those who warn or cause an unavoidable ecological catastrophe. Another tendency is to point out that these facts have been known for a long time, but that nothing, at least nothing of significance, has been done. It is possible to admit that the warners are right and still pose the question that they cannot pose if they describe society in these terms.

This is as trivial as it is correct: they cannot see the unity of their distinctions, that is, the unity of destruction and survival, nor the unity of good and bad. They also cannot see that warning is a complex activity whose representation and calculation requires a many-valued logic (which does not exist, or at least not in the form of "truth tables").[12] Not being able to see this unity means that the corresponding distinction cannot be discarded and replaced with another. The observers are unable, to put it in the language of Gotthard Günther, to shift to the level of "transjunctional" (in contrast to conjunctional and disjunctional) operations.[13] Apparently there is a direct correlation between the world and observer on the one hand and, on the other, what must disappear on both sides of unmarked space to make observation possible.

This is not a political or moral critique of the corresponding descriptions. Every critique would incur the same problems, and reactions to ecopolitical initiatives are, in fact, to be judged the same way. The resulting social description takes on the form of a controversy, that is, a distinction that cannot reflect its own unity. There is some evidence that this controversy will take the place of the obsolescent controversy between capitalism and socialism. This may be politically welcome, but it can hardly be anticipated whether the system of political parties and political elections can succeed in gleaning distinguishable political themes from this new contrast.

The proof of the pudding for what remains invisible lies, however, in what can be made visible through it. Has it been valuable, judging from the present results, to conceal both the ignorance and

the radical duality of value? The answer is unequivocally no, and this brings us to our critique.

Ecological relevance for society is mediated by its relevance for the human body, possibly heightened by perceptions and anticipations, that is, by psychic mechanisms. In thinking about destruction, it makes no sense to think of people and society separately. The destruction of communication can lead to the death of many. We need only consider the breakdown of the transportation system, the money economy, or medical care. The extinction of all human life means: the end of transmissions, the end of all communication, the end of society. Given this perspective, it becomes impossible to separate organic, psychic, and social systems. More than any other humanistic tradition, the ecological perspective today combines society and people, if not in one concept, then at least in a community of shared fate. Those who thematize ecology in society do not consider describing society as a system that involves two inextricably linked environments: conscious humans and physical-chemical-organic conditions. This is true even though the role of demography in the irreversibility of a technotrophic society's development is clearly acknowledged.

The constellation of ecological descriptions cuts across theory. This is also to say that the development of theory is in danger of running up against ecological descriptions that send the message that those not for us are against us. This is precisely what a society cannot afford to do when it is in a structural crisis and can no longer exist within the structural and semantic status quo. It may therefore be wise to proceed, without complex theoretical models, to an ecology of ignorance, that is, to steer the description toward the form behind which lies unmarked space.

III

In their most general form, ecological problems concern the relationship between time and space. They involve only systems that set their own spatial boundaries; and they concern these systems only in the dimension of time, that is, at some particular time, and not

before or after. But how are time and space understood in such a way that ecological states might be observed and described?

If we go back in our own history some three to four hundred years, we find a world of space that encompasses the entire globe but is inhabited by things that can be touched. There are telescopes and microscopes, but these only aid in more precise inspection, thereby simply providing a better knowledge of what was traditionally within the pattern of things. We can therefore imagine ourselves in a tradition stretching from Bacon to Locke and then to Vico that conceives of knowledge in terms of production (namely of things). The boundaries of ability are set (only) by the laws of nature, which are there to prevent errors (and mistakes).

The world is only a few thousand years old, as is society (created a few days later). It may last a few thousand years more (depending on God's plan), but may disappear just as quickly (something feared around 1600 because of evident signs of dissolution—"all coherence gone").[14] Beginning and end are in God's hands, and therein lies the certainty that all is well intentioned. Not until around the middle of the eighteenth century did the temporal horizons expand considerably. Only then could the idea be advanced that, in light of such a complex situation, God, too, uses time and might even still be in the process of creating the world.[15] This justifies the expectation of progress, and in the "century of education," pedagogues translated this prospect in terms of their own tasks: better people from generation to generation, that is, better education equals better people.

But that world, too, has disappeared, replaced by a new mathematics and a new physics. Temporal and spatial relationships are now dependent on the variable that constitutes their relationship, namely the speed of the observer and his acceleration or deceleration. In Einstein's world the possibility of mathematical conversion still existed, and this served, along with a physical speed limit, as a kind of reference point for objective knowledge. But physics has raised much more radical questions concerning the possibility of a world organized for self-observation.

Observers, with whose help the world can observe itself, are in

this case physicists, or more precisely, complex physical devices that suggest that (living) physicists exist and are able to design and supervise their construction and interpret their results. But how is the world made aware that it is observing itself if not through communication? Sociology must again modify its theory of a self-observing world and pose the question: how is the observation of the world communicated within the world?

It is a well-known fact that communication has increased in volume, complexity, memory, and pace. We know that it enables us to remember more knowledge, thereby making knowledge more quickly obsolete. We know that telecommunication tends to push the meaning of space toward zero (nevertheless, the earth still has simultaneous night and day, and depending on one's location an inconsiderate phone call can still get people out of bed). Anthony Giddens[16] sees in this almost total decoupling of time and space an important characteristic of the modern, and he is one of the few who emphasize this aspect and its social consequences.[17] Even more irritating, however, is that these changes of time and space in social communication are not directly related to the immense expansion of today's imaginable world. In time and space the most minimal (invisible) differences become comprehensible, as do immense distances and temporal movement, which are also only indirectly accessible. Finally, the technology-related ecological problems and the measurability of their variation have led to a huge expansion of time-space horizons both large and small. Catastrophes are no longer spatially and temporally limited, as are the destruction of a building, the explosion of a steam boiler, the crash of an airplane, or the bursting of a dam. Such disasters are held to certain limits by nature's loose coupling. What causes concern today and what defines a catastrophe in the ecological sense are rapid or slow changes that take place in huge or very small spatial and temporal dimensions, typically in both large and small at the same time. They overwhelm both the ability of the individual, bound to things and causality, to imagine such a reality and society's communicative (linguistic) practice. These changes can no longer be presented as manageable and relevant knowledge, despite the calculations, half-lives, and so forth.

Apparently these changes in communication technologies are not meant to better represent a world that has become incomprehensible in time and space. The operation of communication that reproduces society follows its own evolution and cannot be attributed to the change in the extension of the time-space dimensions of knowledge produced by society.

The description of time and space can follow these changes if its instrumentation is fundamentally changed from *division* (of being, of the world) to *distinction* (of an observer). The tradition from Aristotle to Hegel attempted to present time with the help of the distinction between being and nonbeing, but in doing so came up against the unity of this distinction, that is, its paradox.[18] The division of the whole into parts failed because of time's characteristics. It has always been necessary to know what time is in order to formulate the distinction between being and nonbeing as a paradox, thereby allowing the division of time to founder on the nonexistence of "now." Alternative solutions with concepts like movement, process, and dialectic soon realized that these concepts are inadequate to define time itself. Time could therefore only be designated as something that, to use Derrida's formulation, remained absent of time-affinitive phenomena.[19] The question remained unasked why an observer would begin with the distinction between being and nonbeing, why he would use the characteristics of the phenomenon of time to sabotage this distinction, offering it in the form of a paradox, and why he would then grasp for concepts that he knew would be useless to designate time.

In light of the obvious consequences of such an obstinate, strictly ontological view, if we presume a "metà tà phýsika" in observation, then we are compelled to shift the method of observation from division to distinction. Only in this way can observation reflect itself as an operation. This also means that we must reject a categorical devolution of the world into self-endowed dimensions; for, using the language of Aristotle, categories are divisions of being. This also questions the concept of intuition, which suggests that these dimensions can be understood with a single glance (even if only partially and never in their infinity). The distinction between

finite and infinite can consequently be put aside. Instead, in the case of distinction, everything depends on how the boundary that divides two sides (that is, the distinction) is drawn. The present is then the boundary that allows us to distinguish past and future. Space is the boundary that allows us to distinguish direction and distance. The choice of this distinguishing boundary is up to the observer. To know how this choice is made requires observing the observer. In place of what is asserted to be intuitive, we have the ability to designate something (in contrast to something else), that is, a place ... far away, a path in the direction of ... , an event seen from today as past or future (or seen from a point of time past or future of today). The world has no predilection for any of these boundaries. They may be useful to an observer in different ways. But it is no longer possible to know how the world explicates time and space. It can only be observed that the choice between distinction and designation or presents and spaces has consequences for what can be observed or not observed. In each case time and space are only media for possible distinctions, media for possible observations, but are as unobservable as is the world as a world.[20]

In a traditional sense this view could be seen as complete relativism. But then we have neither an objective nor a subjective relativism, but in any case a relativism without an oppositional concept. This designation says nothing, because it is unable to indicate what it is excluding (except for, purely historically, ontological metaphysics). One can participate in such arguments or not. It would be sociologically more important to ask whether or not the relationship between knowing and ignorance should be reevaluated.

IV

From which present should what can no longer be changed and what still lies in the distant future be determined? What place in space determines involvement? What is far and what is close in time and space? To what extent must we consider that what we do now will at some time be the past and can then no longer be changed—if we currently do not yet know and cannot know what potentials of

change a future, still hidden today, will hold? And how can we take care that we do not now prevent the appropriate preparations for what may be possible? Who decides? Nature is silent and the observers argue.

The withdrawal of knowledge from time and space—Giddens speaks of "disembedding" to designate the social consequences of the emptying of time and space[21]—can hardly be traced back to electronic communications technologies. Instead we must ask whether there are any social positions from which knowledge can be represented and communicated with corresponding authority. Modern science comes to mind. And this is indeed the premier position. Pseudoscience cannot compete, even though "parascientific" sources occasionally give researchers food for thought.[22] The relevance of scientific verdicts, however, applies only to proven untruths. Scientific knowledge itself is only represented to be hypothetically valid. This not only leads to reason, as Kant supposed,[23] but also gives communication the freedom to try alternative explanations. Science was never able to conquer other functions systems but at times even ostracized them, encouraging processes of self-discovery.[24] Early socialists recommended considering knowledge as a factor of production, but this was never really accepted in economic theory, because knowledge cannot own things and is therefore unable to take part in value-added distribution. Politics and law seek advice from science, but there can be no talk of scientific decision making.[25] This concerns not only the rejection of "unusable" knowledge by other functions systems but also a specific increase of claims and caution on the part of science itself. Only under pressure will scientists go beyond what they can vouch for in strict scientific terms, whether in court or in ecological questions or concerning new life forms. Talk shows exist not only on television, but those that do are mostly concerned with a fairly transparent wholesale of knowledge.

With only slightly greater abstraction we can see that the same phenomena appear in other functions systems. As soon as the differentiation of functions systems is at stake, universality and specificity go hand in hand in each of these systems—the universality of re-

sponsibility for its own functions and the specificity of systemic reference and the conditions that apply to the communication acceptable within each system. If this is the case in all (or at least in the most important) functions systems, then it can be assumed that these types of communication structures (in Parsons's theory these correspond to pattern variables) are directly linked to functions differentiation, that is, to the structure of modern society.

Applied to forms of communication, this means that there is no longer a representation of order, the order of the world's forms of being and, correspondingly, the order of human behavior as right one way and wrong another. "Representation" has a dual meaning: the ability to portray and the ability to make present. The concept loses both meanings if (1) there is no status position that can legitimately, without competition, speak for being or translate *res* into *verba*, and (2) the temporal structures of social communication change to such an extent that the present no longer offers an opportunity to be present but only recognizes it as the difference between past and future.

Along with the prospects of representation, we lose the ability to lay claim to authority. Authority is the ability to increase, to let the basis for persuasion in communication grow ("augere"). James March and Herbert Simon speak of "uncertainty absorption."[26] This phenomenon is closely linked to specialization. We assume the communication of a specialist or an accountable officeholder to be carefully verified, otherwise all verification would have to be conducted personally. We do not refer back to this source of information or its conclusions but take its communication as fact, as a given consolidation of information. Correspondingly, there is a coupling of responsibility (= the absorption of uncertainty) and authority, authority understood as the "capacity for reasoned elaboration."[27] It is assumed in subsequent communication that a communication provided with authority can be explained or justified, but the question goes unasked because of a lack of time, or the lack of competence to formulate the question, or the lack of courage.

The motives for constantly sabotaging the absorption of uncertainty are absent. In the past the unity of authority and responsibil-

ity depended on not being able to pin every mistake or its consequences on the holder of authority. He or she was, aside from times of crisis, shielded by his or her status. One could not communicate against him or her, at least not with the interaction of those present.

This communicative unity of authority and responsibility falls apart under the conditions of the social structures already presented. It breaks down because of the dissolution of the (unquestionably assumed) status order and above all because of the tension between universalism and specification. In formal organizations this is painfully and fragilely reconstructed. As far as social sources of authority can be taken into account, this fails. Neither age nor birthright are available. Instead, so says our relevant thesis, *the communication of ignorance (in organizations: the communication of nonliability) is legitimized.*

To summarize: it is not enough that society delegitimizes representation and consequently authority. It is not enough, to put it another way, to allow critique and protest to run amok. Society must be able to survive the communication of ignorance. If the absorption of uncertainty has a function, how can this function be fulfilled in another way? And which social forms would have to be concocted if communication is increasingly aimed at expanding the uncertainty of the receptors?

This question becomes more explosive if we assume that we are dealing with, in the case of social systems and in the case of those organizational systems that are enabled by society, operatively closed systems. Only communication can deal with all the problems that crop up in communication, transforming them into other problems for which the same is then true. In spite of Gödel, external resources do not exist. There is only the prospect of "solving" internal problems (such as those of logic) internally through externalization, which can then result in externalization's becoming a problem in turn.[28] Authority is always a system-internal product of currently active communication. It "recruits," in a sense, external sources, if such a reference (for example, to nobility or to age) can be internally transported. It can establish "wisdom," if, for example, the lifestyle of the wise or conspicuous methods of communication designate it

as such.[29] But at least since the seventeenth century such external references of communication, which were effective in gaining acceptance, have run into trouble. The wise must take care not to appear silly and must, therefore, reflect on communication. The noble can, for a time, still be noble, but can no longer play this out communicatively.[30] There are, after all, so many elderly that supporting them through pensions presents problems; but then, pensioners have no authority.

To explain such changes we can only look to sociostructural changes. The phenomena, just as the theories that are offered to explain them, are and remain socially internal products, whose meaning consists exclusively in which communication possibilities they open or close. And our problem is, to say it once again, how society copes with a self-induced removal of authority and the broadly effective communication of ignorance.

V

The communication of ignorance relieves authority.[31] Whoever communicates knowledge absorbs uncertainty and must consequently take responsibility for the truth or untruth of his knowledge. Whoever communicates ignorance is excused. Perhaps he can be sent back to the sources of knowledge and given the task of conscientiously informing himself by doing research. But this only makes sense if whoever takes this step already knows what there is to know. Research or information gathering, if it is not to appear capricious, must be conducted as if it expressed only the deficit of knowledge, the need for absorption of uncertainty. These requests, too, fall under the general heading of the communication of ignorance.

If we look around to find out how today's society deals with such a recursive network of the communication of ignorance, then it becomes apparent that the problem is formulated in ethical terms. It is thereby shifted from a cognitive to a normative context. Everyone conveys their own ignorance and at the same time uncovers others' pretense to knowledge. Ignorance remains the sum of the

communication. This is not acknowledged, but *instead* the suggestion is made to take *responsibility for the consequences*. Seen from a distance, this is a rather curious semantic maneuver: virtue does not arise from necessity, but an appeal to the virtue of others is made. Fate—those are the others.

To gain some perspective, a historical comparison should prove helpful. This has nothing to do with the Old European ethic, as much as people today dream of an ethical-political civil society. This tradition ended in the seventeenth century, at the latest by the eighteenth century.[32] At the same time the communicative rivalry between philosophy and rhetoric (or historiography and poetics) ended, an end dictated to *both* rivals by the truth/untruth schema in order to justify the need for rhetoric and poetics to work with veiled or transparent deceptions.[33] Whereas the concern at that time revolved around amplification, we introduced the concept of absorption of uncertainty above. The world of these communications is *in every respect* past. *Nothing* remains *directly* relevant, and every attempt at reactualization is therefore suspect of compensatory functions.

In ethics this change was expressed in the second half of the eighteenth century by an adaptation to social change. A doctrine of behavior turned into a theory that justifies moral judgments. The reference to good manners and the reference to the good appearance of behavior, still important in the seventeenth century, were lost along with the reference to social stratification. Ethics and aesthetics were separated, and both disciplines were separated from the "prudences" of the traditional professions and their knowledge of theology, jurisprudence, political rhetoric, or trade. The result was the functions systems' claim to autonomy, characterized by functions differentiation. These changes must be considered sociologically irreversible, even when functions differentiation cannot deliver what had been hoped and progress is no longer an issue. Especially when a "loss of direction" in every sense is manifest[34] and, as I believe, correlates with the communicability of ignorance, it becomes impossible to look back to a thinking founded on a solid cosmic framework of necessity and impossibility.

For the same reason, an ethics justifying moral judgments remains a victim of its own problems, above all the problem of justifying the justification. Today the term "proceduralization" (bourgeois through and through) is used. This amounts to an observation of the second order. If we do not know *what* good reasons are, then we at least want to be able to say *how we can test* whether good reasons are good reasons, namely in communication itself (which specializes in this area).

A special kind of communication exists as a medium in which forms can be inscribed that would bind the potential of the medium for a certain period. These reference points have been known as "values" since the second half of the nineteenth century. Accordingly, a material value-ethics is proclaimed. This has failed to convince the philosophical field for a long time now but has continued to dominate social communication because it apparently offers communicative advantages, namely a peculiar connection between the determination of values and nondetermination in the case that is most interesting: when values conflict. A *normative* understanding of values (= preferences) serves to allow an ethics to formulate moral demands for the behavior of *others*, demands *that can be maintained despite constant disappointments*.

Apparently this kind of ethicization of values requires a strong need for orientation. In the past few decades, the consequences of technology and ecological problems have played a major role. It seems impossible to get around the causes of these problems, and all variations that are recommended seem too trifling. But the consequences are also unacceptable. And if we add the fact that knowing, when it really matters, retreats to ignorance (as the bureaucrat retreats to nonliability), then the dilemma becomes apparent.

Hans Jonas was therefore able to appeal with great success to making a virtue out of necessity.[35] The message is: one should take responsibility for the consequences of what is caused technologically or otherwise. There is at first nothing to be said against this. But if the one who brings about consequences (that is, the one who dares to act) does not know and cannot know what will result, *and if he is allowed to say so*, then the dilemma is once again obvious: either

do not act (but then who takes responsibility for the consequences of inaction?) or leap into the unknown. We find ourselves in the world of being conscious of accepting risk, and ethics, at least until now, has not been able to provide any criteria for this.[36] Nicholas Rescher writes, "Morally speaking, an agent is only entitled to 'run a calculated risk' *on his own account* but not for others."[37] But this only paraphrases the old liberal theory that allowed self-interest as long as it did not harm anyone else (who does not agree). The application of such maxims, this much we know today, tends to be a zero-sum game. And this demonstrates that ethics is actually practicing an unethical kind of doping.

And still we rely on goal-oriented action, from grand world-political gestures[38] to the most minute analysis of the problems of rational choice. Action is employed to bring about conditions that would otherwise not exist. The fact that this happens, that it happens on a regular basis, and that it is done successfully cannot be denied. Of course, the point is not to talk society out of acting, even if the consequences, seen as a whole, give rise to concerns. But we can just as easily ask how action is communicated and how a semantics of action can be convincing if the communicability of ignorance increases at the same time.

The theory of action resists by distinguishing the ends/means/cost complex of action and its unforeseen consequences. This distinction is quite old.[39] Merton discovered and reheated it for sociology.[40] In the distinction itself lies an acknowledgment of ignorance. The question is, then, whether there are circumstances that change the relationship between knowing and ignorance, perhaps to a point in which ignorance becomes the most important resource of action.[41] "Man is capable of taking action only because he is capable of being ignorant, and of contenting himself with a portion of the consciousness that is his signature oddity."[42]

Apparently the relationship between the foreseen and the unforeseen consequences of action depends on the temporal horizons that are taken into account when acting. The further we look into the future, the more likely is the preponderance of unforeseen consequences. The breadth of the relevant future horizon is itself a

variable. On the one hand, structures in society change faster than they once did;[43] on the other hand, the future's threshold of what cannot be foreseen moves closer to the present. Factually as well as temporally, the importance of ignorance increases in horizons that are considered to be relevant to action. But how can action be made more plausible to others without anyone's knowing the result?

Action theory (including guidance theory) is, in this case, a manifesto that attempts to counter this trend. An important argument can be made that without competence for action, society is lost. But we may ask, as was done in the 1960s, whether a distinction, based on goal setting, between foreseen and unforeseen consequences is theoretically adequate to address the problem.[44] Such a distinction copies the perspective of the first-order observer, that is, of the actor, and it advises him while maintaining an interest in rationality. Other limitations in the form of ethical imperatives can then be added. Is this sufficient, considering that actors are observed, that all functions systems operate on the level of second-order observation, and that there is no longer any socially accepted (for example, religious) position for the distinction of knowing and ignorance?

VI

Today we can speak of the future practically only in terms of the probable or improbable, that is, in terms of a fictively secured (duplicated by fictions) reality. We now know that future presents will bring other things than the present future can express, and when we speak of the future we express this discrepancy by dealing only with probabilities or improbabilities. Those who claim certainty subject themselves to deconstruction and can expect support only from the faithful. The majority of judgments that form the basis for any sort of understanding are subject to change at any time. There are understandings that function on a large scale, but there is no a priori basis that could ensure that these understandings (or at least some of them) might remain valid for all time.[45]

These circumstances have apparently left the entire area of self-

commitment unaffected. What is promised must be delivered. The ancient Roman "fides" is still valid. It might therefore be reasonable to expect contracts to be relatively reliable, even if such certainties are adrift in a sea of ignorance. The complicated texture of Roman contract law, with its ability to distinguish between overt and covert deception,[46] continues to shape the development of the "synallagmatic" bonds that cause problems. At the same time we must ask to what extent this contract system, one of the greatest inventions of civilization, still provides the social form we use to transform the uncertainty of the future into a certainty already guaranteed today.

The modern era has again set its hopes on the social contract to alleviate the uncertainty that has evolved from the collapse of trust in the natural order of human behavior. Here, too, we have a shift from cognitive to normative guarantees. This remained the case for some 100 years, from Hobbes to Rousseau. Liberalism, which caused the freedom of contract to blossom, took another position; it wanted to break up the old order with the semantics of individual, freedom, equality, and contract but then wanted to leave the new order to itself. Society can attribute itself either to force or to history, depending on what it makes of it. Origin is no longer of interest; opportunity lies in the future. The contract as a binding instrument seems tailor-made for society, but the problem lies in the relationship among humans themselves. Human beings must be allowed to create bonds (nonfreedoms) and inequalities, provided this is done on the basis of freedom and equality.

Since the renunciation of natural law, the mechanism of the contract, legally and economically essential, has been secured in the idea of a legal-political constitution. This constitutes the law and thereby contractual freedom without seeing itself as resulting from a contract. (This was most likely avoided so as to forgo the well-known problems of challenge, cancellation, the right to resist, and so on. A solution was found by constructing a "people" that "gives" itself a constitution.) Nevertheless, the withdrawal of a guaranteed certainty of valid, alterable norms remains. At the same time, reflection on art withdraws to perception, be it of texts, paintings, or theatrical performances. The theory of art is newly founded as "aes-

thetics,"[47] since disputed judgments had already been qualified as matters of "taste." Disputed claims of individuals are acknowledged by both law and art as interests or as sensibilities and at the same time neutralized via a liberal "poetics of indifference."[48] Neither requires a certain knowledge of (modern) society. The necessary orientation can be found in the concept of "modern" (that is, constitutional) "states" and in the aesthetics of reflection. Society is seen, however, as economy.

Contracts fail to offer any far-reaching certainties, even for individuals. Contracts that have no stipulated time limits or that cannot be canceled are not recognized by law anyway. Besides, contracts guarantee only the claim, not the settlement of the claim. Art, too, sabotages the promise of security that might lie in perception by recognizing only new works of art as works of art. The fact that we have pursued the question whether equivalents of security could lie in norms or in artificial perceptions may have already puzzled the reader. Knowledge cannot be replaced in these ways, even given the self-devaluation of knowledge, and more knowing necessarily leads to even more ignorance.

Above all, the entire basis of this argument is shaken by the fact that the primary source of social uncertainty is no longer other individuals but rather the ecological context in which the social system evolves. All social forms are now additionally burdened with the uncertainty that one cannot know (or at least not adequately) what effects social communication will have on the social environment and thereby indirectly on the prospects of continuing social communication. Contracts are not insurance. We still have to deal with deceptions or misconceptions or changes of mind that we would rather safeguard against. We still have to deal with the uncertainties that result from the social system's human environment. And even in this relationship there are changes that make it seem doubtful whether we can still expect certain traditional social approaches (for example, in the relationship between generations). Another problem results from the interdependencies of social ecology, forcing society to make previously unknown speculations.

Given this, social communication has formed *themes*, surpris-

ingly quickly and surprisingly successfully. What we know about thematization is that we do not know what will happen if behaviors are modified or not. Ignorance crystallizes around themes. This answer leads back to our problem of the social management of ignorance, and it leaves the question of what advantage there might be in having uncovered and thematized ecological problems. Perhaps the reward lies mainly in making society uncertain, so that it might in some way become active.

How order can exist without knowledge is usually explained with the help of the concept of imitation. Gabriel Tarde is the decisive classic and René Girard the currently most prominent author. In economic theory there is a corresponding idea: that undecidability is transformed into decidability through imitation.[49] The question is: who or what is imitated? We might first think of authority or social position, but this would relegate the theory to the old order. Research on mass media talks of gatekeepers while leaving open how these informal positions are filled. A step further leads to the analysis of the phenomenon of fashion. Separate from premises of caste, there remains a peculiar phenomenon of the reflection of imitation. Fashion comes into being when nonimitation (namely deviation) speculates on imitation and is imitated. If the change in fashion is quick, as is the case today not only in clothing but in all intellectual fashions, in the fashion of art or in everything that contains prefixes such as post-, neo-, bio-, eco-, and so on, we must consider the possibility that imitation and nonimitation are indicated at the same time (or as it is fashionable to say, proclaimed). Fashion-dependent communication then becomes a medium for changing themes, for the temporalization of complexity, for the increase in the irritability of communication. And in his or her environment, each individual realizes that he or she lives too long and too slowly in order to keep pace.[50] Viewpoints and preferences and narrative biographies go out of date; even what is left unsaid interests no one. On the other hand, what is said seems suddenly to be embarrassing (for example, using the word "Negro"). There is an element of style to being square and to openly detaching oneself. The style is then to show fashion that it is only fashion. But even

this is now just a form that enables the dominant trend of change and imitation of nonimitation or the nonimitation of imitation.[51] The readiness required in communication to accept selections, to pass on the absorption of uncertainties, can no longer take on the form of binding psychic capacities. If this is what "consensus" means, then consensus is neither possible nor meaningful. The question would immediately pose itself: how could one get rid of it, and what sacrifice would be necessary? In communication, we must be satisfied with messages that do not engage but that specify under what conditions they hold true and what changes would tangentially touch on the "economic foundation." Part of this is a social style that practices discretion. It does not attempt to change the minds of those who must understand each other, to convert them or to change them in any other way.[52] In any case, those present are not present as themselves. They act as functionaries, emissaries, and representatives and only need to ensure that those who are informed are informed of the information. Whenever opposing interests are at play, we are interested only in a cease-fire. We are concerned with agendas and points that can be mutually agreed upon, perhaps because no one possesses the knowledge that would enable one to force others to agree. We are concerned with processing communication on the basis of the momentary state of information and prognoses that enable us to see additional information that would require revision.

It might further understanding to avoid moralizations, that is, not to include in communication conditions of self-esteem and external esteem.[53] "Esteem" is always an indicator of the moral inclusion of persons in society and thereby also of their exclusion, if esteem is negated. This presumes that individual attitudes or actions could actually have the value of such an indicator. This should not be fundamentally ruled out in the case of modern society, but we can assume that making this generally understood has become increasingly difficult. Communication is all the more advised to proceed with an abstinence from morals and to include moral considerations only when the desired result is the breakdown of communication. The schema inclusion/exclusion is actualized with moral

communication. As long as understanding is the goal, or as long as we believe it possible, we must proceed from inclusion. Then it is useful, however, to not burden communication with this alternative to begin with.

These boundaries are at present not clearly delineated. Cognitive and moral questions often blend, and opinions on probable versus improbable are dealt with as moral obligations. We immunize ourselves with morals against the evidence of ignorance, because the morally better opinion can be confirmed with its own arguments. Industrial complexes are affirmed by some to be "safe" and described by others as unsafe, even though we know that we do not know whether and when a serious event will take place and what its effects will be. Discontinuing the use of nuclear power as an energy source is said to be a "morally obvious" choice—which signals that the author of the pronouncement is not able to make himself understood in this question.[54] Morality in communication forces exaggeration, and exaggeration quickly dooms understanding. "You can't talk to them," is the response, because we cannot get "them" to the point of accepting our own view of things.

Communication that aims at comprehension must therefore at first cultivate uncertainty and the shared knowledge of ignorance. Since ignorance is plentiful, this should not prove to be altogether too difficult.

VII

What remains seems to be culture, at least in the final years of this millennium. Apparently the concept of culture is well suited to incorporating heterogeneity. It has always been unclear and controversial what this concept means, what it includes and what it excludes. Cultural anthropologists seem to prefer different themes than do social anthropologists. In Parsons's general action theory there is a corresponding distinction, taken to a level of analytic relevance, that is supposed to make it plain that no action can come into being without social and cultural references of meaning. Since the end of the eighteenth century, the concept of culture has carried with it a reflexive component. It states in all applications that other

cultures are possible. This forces us to make a double distinction, with the different cultures on the one hand and what culture is as opposed to nonculture on the other. Covert help was once available but has since been lost, for example the multiethnic consciousness of the Old World, or the possibility of distinguishing between culture and civilization or between nature and technology. The concept was able to justify divisions and could at the same time, through a multiplicity of contrary concepts, leave open what it actually meant.

Since the end of the nineteenth century we have witnessed a second wave of noteworthy downward expansions. From culture it was discovered that other cultures existed further below. Native cultures had been a concept for some time. The interest in worker cultures came along. (Nothing is so radical, so bad, if there is culture.) Today there are drug cultures and the like.[55] The functional abstraction of the concept no longer allows for a boundary at the bottom; we even speak of a culture of the body, and not just in advertising.

Nevertheless the concept still has a view to the top, something that seems to motivate the move to the bottom. It promises something "better," even if it is snake oil. It furnishes, as Pierre Bourdieu has made plausible with many examples, a legitimation of distinctions. It is, or at least was until recently, a concept of the middle. But even this immanent limitation by hierarchic connotations could be in the process of dissolution. It presumes standardization, for example, a typical lifestyle or a limited milieu, something that is less and less present. Culture in the usual sense must be able to let itself be surprised. It finds its boundaries, along with the call to overcome them, in the "not that / that, too" experience. Culture sees itself as a culture of individuals, but this also implies that individuals must correspondingly discipline themselves.

It will prove impossible to renounce this aspect of culture completely, if social order and reciprocal expectations are to remain possible. But the trend seems to be headed toward the individualization of "frames" that we take for ourselves.[56]

In this sense we search for identity, alternative identities, protest identities, all the way to identification with functionlessness, or any sort of niche identity that a complex society can offer somewhere. Culture is no longer only able to surprise and be surprised; it deliv-

ers surprise as shocks. The legitimation of this process has been promulgated by the official art industry, and thereby, without doubt, culture. We see it today in the streets, in the aesthetic, but also in the political.[57] It is sufficient for culture to do so intentionally. And somehow freedom, employed for and accomplished through individual self-framing, manages to express that this legitimation process holds true for the whole.

We have already claimed, with the help of a very theoretical discourse (self-framing?), that the observer and the world are separated by what is distinguished and designated, although both, the observer and the world, remain unobservable. Is culture the proper instrument? Is culture immune to ignorance? And can this or must this be said if the frames are increasingly individually tailored ?

Raised to a penultimate concept, culture is everything that serves to resolve the paradoxes an observer encounters whenever he asks about the unity of the distinction that he uses, be it the distinction between system and environment, or the distinction between knowing and ignorance, or the distinction between observer and observed. Resolving the paradox means a reintroduction of identities that enable continued operations. This cannot occur logically, because paradoxes exist outside the boundaries of logic, which is itself a kind of culture, namely a kind of solution of paradoxes with the aim of setting up calculations. There are no clear directions either from being or from thinking. The resolution of paradoxes can only occur in stages, that is, creatively (which does not mean arbitrarily). Culture seems to be the medium in which forms for resolving paradoxes can take on stable and, in their own time, plausible identities. Culture is the stock market where options for paradox resolution are traded.

Ulrich Beck, in widely read analyses, has uncovered relationships between the perception of socially advocated risks and a "new individualism."[58] What is "new" in the "new social movements" could also be the fact that they assume varying individual situations or even base themselves on those individuals who individually seek their identity, massively, yet each for himself. Helmuth Berking has added a diagnosis of paradox: "Individualization . . . means, in practical terms, learning to deal with paradoxical behavioral expecta-

tions. Individualization also means expanding the subjective room for freedom *and* complete market dependence, subjectivization *and* standardization of expression, increased self-reflexivity *and* overwhelming outside control."[59] And one could add: loving the other in his otherness even if self-destructive tendencies arise, that is, avoiding a debasement of love in therapy and maintaining at least *this* distinction.

Such questions should be put to society and its culture. Psychic systems are unusually robust, up to and including stable pathologies, and the same is true for the organic system of life. There are cultural descriptions of this as well, for example, representations of illness. But modern society creates its *own* problem with its concern for identity, which it ascribes to individuals in the form of a hidden paradox, a problem that is both serious and possibly on the same level as the problem of ecology. There are cultural forms for problems and for motives that have to be capable of individual appropriation. Covering up ignorance in ecological matters seems to be such a problem. The well-prepared motives are no longer the same as those imagined by the official establishment. They are motives of concern, warning, and protest that can consolidate themselves in one way or another into social movements or even just expression in the mass media.

Protest movements do not necessarily claim their own knowledge. They result from the transformation of ignorance into impatience. They replace ignorance through the knowledge that waiting is no longer an acceptable option, because knowing would come too late if at all. They are superior in this reflectivity to all others that offer any resistance. But this produces an uncertainty that can slip into irresponsibility. We already have a culture of concern, if not to say of cultivated fear, that is in search of goals. Whether we can get to a culture of unconvinced understanding is still open.

VIII

We have progressed in our discussion to the level of the social system. If there are expectations in our society of being able to deal ef-

fectively with ecological problems, then these expectations are addressed to organizations. Organizations, so it is assumed, have an internal technology of uncertainty absorption.[60] They are specialized in the potential of "factoring" unknown facts; or at least, organizations that are able to do so have a better chance of survival.[61] A reason to distinguish social systems and organizational systems could be that society enables itself to do something through the establishment of organizations that it would otherwise not be able to do, namely, absorb uncertainty.

This need not be questioned, yet it is still possible to ask how organizations deal with things with which they cannot be familiar. An already established area of research concerns pedagogical and therapeutic organizations, that is, organizations that deal with changing people in normal circumstances or with pathologically defined cases in abnormal circumstances. The general organizational theory has not helped much but instead has created a special type for special problem cases: for organizations without a functioning technology. The other solution is to shift the expectations for problem solving to the profession, that is, to view the management of being able not to know as a specific field, as a question of motivation and the application of the self.[62] In the case of ecological problems, this strategy of problem transference will not work. The only alternative seems to be the much-criticized "end-of-the-pipe" ideology that is limited to improving its own waste from an ecological standpoint.[63] It is impossible to deal with organizational suggestions in connection with a brief sketch of the problem. But we can ask what organizational theory and specifically organizational sociology have to offer if they are asked how organizations deal with ignorance.

Classical organizational theory had a model that, retrospectively, could be described as a machine model, a trivial machine, an input-transformation-output model, or a "tight coupling." The precondition is that declared goals (outputs) are achieved according to certain rules (programs), provided the necessary inputs are available and the process is not interrupted. An automobile factory is planned and built, production begins, and at the end, marketable cars leave the plant. It is not unrealistic to presume that this will work.

Organizational sociology, developed in parallel, raised concerns about incidental matters (such as performance motivation), and thereby subordinated these to the model, even when it spoke about "human relations." Seen economically and humanly, things do not function quite as perfectly as the model would require.[64] In the meantime, criticism has grown stronger, has been radicalized, and has imbedded this assumption of an internal technology of uncertainty absorption in an opposing model. There is no doubt that cars can be produced according to a plan and that the additional demands for a greater consideration of human factors and structural flexibility remain on the agenda. But the question of the manner of organizational management of ignorance opens up entirely different perspectives. Pertinent theory offerings are as follows:

1. Organizations are not goal-realizing but rather goal-seeking systems.[65] They are constantly involved in interpreting (observing) their own operations and seek goals, or even new goals, that make what happens or has happened understandable and determinable. Planning is for the most part a writing of the system's memoirs.

2. All planning, programming, and directing consist in operations that must be accomplished within the system; that is, they are also observed within the system. What happens on the basis of planning does not come from the planning itself but from the observation of the planning or even from the observation of the observation of the planning. Reality functions according to the model of second-order cybernetics. Organizations are observations of observing systems.[66]

3. Organizations are nontrivial machines, that is, machines that react to the output of their own current condition and therefore function unreliably. They may contain trivial technology, according to self-referential processes, that is, the measure of their current condition. They are in this sense historical machines that reconstruct themselves from moment to moment as new machines, which naturally does not exclude them from always doing the same thing, functioning reliably, and therefore not realizing the potential of goal seeking.[67]

4. Complex systems attain stability only through a decoupling of

reciprocal effects. The older cybernetics talked a lot about step functions and ultrastability.[68] Herbert Simon emphasized the importance of a vertical differentiation of levels (hierarchy building) for the horizontal decoupling of operations.[69] Today the terminology of loose coupling versus tight coupling is preferred.[70] Loose coupling localizes interferences, insulates problems, and prevents pervasive effects. On the other hand, activated by technological catastrophes, research has shown that it is not very effective at compensating for a technology-dependent reality, that is, interpolating itself;[71] precisely because this would require a sure functioning for specific (but rare) impetuses under unknown conditions. A satisfactory organizational containment of risky technologies is unreliable because of this distinction between loose and tight coupling.

. Planning and directing in nontrivial (self-referential) organizations cannot determine the future state of the system and most certainly not the future relationships between system and environment. Direction is, instead, a process of minimizing differences, a process that is marketed through goals or that seeks to lessen the difference between goal and reality. The result is neither predictable nor controllable within the system but can be influenced by continuous redirection, that is, by marking other differences. Planning is a going concern, and prognoses specify the viewpoint of its continual correction.

). Organizations are, on the basis of decisions, autopoietic systems. Operations are relevant only in the form of decisions, because only in this way can they connect within the system.[72] All organizational structures are created or changed by this type of operation. All structural developments depend on the development of autopoiesis. The only alternatives are dissolution and destruction. The adapted structural type identifies decision premises by means of positions that enable a change of organizational order, the decision programs, and the filling of these positions by people. Depending on the number of positions, a very high, even uncontrollably high complexity of decision interdependence can be attained, without, to say it once again, the possibility of determining the condition of the system from any position.

* * *

This brief sketch of alternative theories of organization was not developed with a view to solving ecological problems. The point is, instead, that problems can be solved by not solving them; that is, by maintaining them as a moment of the system's autopoiesis through continual goal seeking and through redirecting structures (optimists say through learning). The more unsolvable a problem is, the higher its reproductive value. This sabotages the hope that we can force ecological problems into being organizational tasks and thereby ensure that they will be dealt with in an expert manner. The preceding discussion centers on a deconstruction of organizations' classical demands of rationality and at the same time on a renewal of the likewise classical critique of bureaucracy.

If we were to proceed from an ecology of ignorance, however, we could hope for an organizational theory that is better able to take these conditions into consideration than is classical theory. What appears to be a defect in the model of rational problem-solving could make way for a more realistic analysis.[73] It would be important to observe more freely how ecological problems are dealt with in organizations; what forms they take; how stable, that is, resistant to change, they are; how they are observed as internally declarative programs; and how the organization arranges itself around these problems, so that it survives when something happens.

The question of dealing with ignorance is a new problem for organizational theory as well. Understandably, CEOs and their advisers are intent on demonstrating and improving their proficiency, and therefore so are organizational researchers. But ability is only one side of a form, the other side of which is inability. If organizations are understood as autopoietic systems, then this explains their extraordinary robustness, their endurance in a world that they are unable to know. The theory of autopoiesis has up to now been evaluated with the help of theories of cognition.[74] This has led to a discussion of cognition theory's constructivism, which has, if I may say so, proven itself to be controversial. The limitation to problems of classical cognition theory also masks the importance of this theoretical adventure. Concepts such as "operative closure" or the regression of all problems to the question of the observer point to changes

in attitude. These changes in attitude make it seem likely that the European "consciousness of ability"[75] has begun to become aware of its own improbability.

But if this is to be relevant to decision making, then it can, of course, only be formulated within society and, of necessity, within its own organizations. Today more than ever, it is unrealistic to expect that nature will help physically or that being will help metaphysically. Society can only help itself with its own operations, that is, with communication. Every critique comes up empty-handed if it proceeds all too hastily with the assumption that we could if we only wanted to, and so it reaches for the rod of moral admonition. It might therefore be wise to begin communication with the communication of ignorance instead of linking communication both inside and outside of organizations to the maintenance of an "illusion of control."[76]

X

Finally we will have to ask whether there is a reason for these assertions, having presented them somewhat regretfully. It is true: if various current developments in theory are examined in light of this question, progress is possible. In conclusion we will assemble some of the theories that are currently being discussed with the view that *transparency is unproductive*. Our sociological argument is: there are hardly ever, or very rarely, reciprocal impulses that could explain the expansion of certain thought dispositions. It seems, rather, as evolution theoreticians would say, that we have an equifinal process at hand that leads to a result from various starting points[77] and that is dissolving traditional ontological metaphysics. And the sociologist's suspicion is that modern society has begun to experiment with a thinking adequate to its own needs.

1. Systems theory is tending to shift to a theory of operatively closed systems.[78] Empirical research, above all cellular and neurophysiological research, has been crucial; research shows that high-capacity systems (above all the nervous system) are unable to maintain contact with their environment on the level of their own opera-

tions. They are unable to operate in their own environment, not even a little bit. This includes extending internal operations into their environment; that is, they cannot control the causality that their own operations initiate in the environment.

2. A strictly operative footing for systems theory (including every theory of the use of signs, such as language) leads to the assumption that everything that happens, happens simultaneously.[79] No operation can assume that, while it actualizes itself, other things are occurring either in its past or in its future. Simultaneity is not strictly speaking time, but it is the basis for the placement of what is present and therewith the basis for any observation of time dealing with distinctions such as before/after or past/future. Simultaneity of all occurrence means the uncontrollability of all occurrence.

3. Semiotics has deemed it necessary, in light of Saussure, to renounce the *verba/res* distinction and to replace it with the distinction *signifiant/signifié* created in the use of signs itself. All differences are only differences *between signs*. These differences can be used operatively. But how do we get signs? Semiotics can be employed reflexively; that is, the concept of signs can itself be understood as a sign.[80] Ranulph Glanville asks more radically whether or not this final sign of the sign can be the last sign, and the question provides its own answer: no.[81] A sign must first and foremost distinguish itself from something that cannot be distinguished: from emptiness, unmarked space, the white of paper, the silence that is assumed in every perception of sound. And this is true especially when a sign is supposed to be nothing more than a distinction between signifier and signified.

4. In attempting a mathematical reconstruction of the relationship between arithmetic and Boolean algebra, George Spencer-Brown insists that only a single operator, the "mark," may be used as a guarantee of the connection.[82] This designates a distinction that can only be used as a designation for one and not the other side. But how, then, do we arrive at the first and last distinction: that of distinction and signification. Spencer-Brown offers the form of "reentry," the form into the form (the distinction into the distinguished). But this reentry cannot itself be used in the calculation; it marks its

own beginning and end. It generates, if you will, in an imaginary space (unmarked space) the potential to release from itself forms, asymmetries, infinite repetitions, and reentries.[83]

5. The form of reentry can, in all its perplexity, further clarify the unsolved problems of the theory of operatively closed systems and the self-reflexive use of signs. If there is no environmental contact at the level of operations, and if no sign can deliver a reference to things, then this situation can be simulated internally by reentry, namely through the distinction between self-reference and external reference. The system copies the difference between system and environment into itself and uses it as a premise for its own operations. And the sign copies the thing that it can only signify into itself as the distinction between *signifiant* and *signifié*. An expedient solution, so it would seem. But are we perhaps haunted, when we think this way, by a bias of the European tradition?

6. The same structure can also be found in the transcendental subject in the interpretation of Husserl's transcendental phenomenology. The unity of the subject is the difference of the operative simultaneous use of noesis and noema, of self-reference and external reference, that is, the reentry of the world into the subject. This takes the form of a distinction for operations on one side only, "in" the subject. Along with many others, Maurice Merleau-Ponty has tried to resolve the problem with recourse to the body of the subject.[84] But this only repeats the problem on another level, and this becomes evident if we question a neurophysiologist rather than philosophers and their body mystification.[85]

7. Jacques Derrida had also been taken aback by the perplexity of subjective reference. He noticed in Husserl and Heidegger readings that the sign in its peculiar role as form (be it as *ousìa*, *eídos*, or *morphé*) presumes the presence of what is manifested through it.[86] But does this unity of form and decisive figure not at first cover up a splitting operation that first creates the difference that is then presented as unity? And is *différance* not at first *différance*,[87] that is, an operation in time? An operation of difference transport without beginning and end that does not permit or require any presence, but instead designates itself in something undesignatable?

8. All this leads to the question: who is it that says all this? Who is the observer? This question tends to answer itself. There is a tendency to self-reference, to an "autological" inference. The observer is the one who is observed as the observer; this is, in any case, the answer from "second-order cybernetics."[88] Observation is possible only in a recursive network of the observation of observations, not in the form of a singular, spontaneous, "subjective" act. Observation does not have its basis in special competencies according to the model reason, intellect, feeling, imagination, will. (The observer asks immediately: who is the observer who distinguishes in this way, and why in this way and not another way?) Observation is a signifying distinction, and only self-observation need be considered along with self-justification, that is, the reentry of the distinction into what is distinguished. And so Spencer-Brown states at the end of his investigation, which also comments on the beginning: "An observer, since he distinguishes the space he occupies, is also a mark.... We see now that the first distinction, the mark, and the observer are not only interchangeable, but in the form, identical."[89]

9. One thing the observer must avoid is wanting to see himself and the world. He must be able to respect intransparency. Michel Serres has described him as a parasite.[90] What is he a parasite of, what does he lie next to? The figure of one who lies next to replaces the figure of one who lies under. The parasite replaces the subject. But this metaphor is in the end not very helpful—except as an indication of a problem. The observer must employ a distinction as a distinction, that is, employ it to designate the one side and not the other. This excludes the observation of the unity of the distinction itself, except with the help of *another* distinction. Any deviating strategy is punished in that only the unity of the distinguished, not the nondistinguished, can be observed. This violates a divine privilege, if we may follow Nicholas of Cusa. Such intention results in a paradox for every other observer. Traditionally a paradoxical result was seen as an indicator of a mistake, also, and especially, in its forms theory[91] and, of course, in its logic. Only rhetoric, which was concerned not with the truth but rather with effect (and therefore with productivity?), was allowed to paradoxize.

* * *

As always, the paradox has been rediscovered in connection with Nietzsche and Heidegger and the failure of logical recipes for paradox avoidance.[92] And because the paradox cripples observation, it can be understood as an inducement, even as a compulsion to solution. This means: as a challenge to reconstruction with the help of distinctions that enable stable identification. Retrospectively we ask ourselves: has not philosophy always looked for a concept, or at least for metaphors, that are able to do this?[93] And while logicians and linguists still hope for a solution through a "differentiation of levels," it is clear that very different distinctions can fulfill this function as long as they are plausibly and productively employed and the question of their origin can be avoided.

We do not have to question the correctness of all these concerns, let alone prove them. It might be enough that we can observe them. Sociologically this means: when observing observations, it is interesting that they are formulated at all. And it is possible, reverting to the usual manner of socioscientific explanations, to conclude from this that society develops figures of thought with which it can endure the unobservability of the world and allow intransparency to become

Reference Matter

Notes

Chapter 1

1. This assumption corresponds to George Spencer-Brown's form assessment, which begins with a hidden paradox, namely the instruction to begin with a "distinction" consisting of a distinction and indication, to be used as a single operator, and ends with the open paradox of a "reentry" of the distinction in what is distinguished. See Spencer-Brown, *Laws of Form*.

2. For a well-known example, see Habermas, "Die Moderne." For a more recent example, see Toulmin, *Cosmopolis*.

3. Derrida, "L'autre cap," cited in *Le Monde*, Sept. 29, 1990. [In the passage translated here, Derrida speaks of a "goût de fin sinon de mort" of this "discours traditionnel de la modernité."]

4. See the discussion of Skinner in Ball, Farr, and Hanson, *Political Innovation*.

5. Compare the *Wörterbuch Geschichtliche Grundbegriffe*; also Ritter, *Metaphysik und Politik*.

6. See especially Bergmann and Hoffmann, "Selbstreferenz und Zeit."

7. Kaufmann, "Religion und Modernität," states, "Social relationships are modern insofar as their mutability and thus their transience are considered part of any definition" (292). But this formulation does not go far enough. It should be "autologically" employed; that is, it should be applied to the characteristics of modernity themselves. Here, too, it is true that those of today will be those of yesterday tomorrow.

8. See Bürger, *Prosa der Moderne*. For this specific style of modernity in the eighteenth century, see Schmidt, *Die Selbstorganisation des Sozialsystems Literatur*.

9. Luhmann, "General Theory and American Sociology."

10. Giddens, *Consequences of Modernity*.

11. Since Giddens rejects an explanation through "functional differentiation," ties the concept of society to the state, and would hardly say that the "reflexive monitoring of action" would require such a consequence as a kind of historical axiom, we are left with an explanation through the development of farther-reaching communication technologies. But then the advent of modernity would begin with the invention of print, and its first result would have been the awareness of the plurality of ethnic groups in Egypt and Eurasia around 2000 B.C.

12. Husserl, "Die Krisis der europäischen Wissenschaften."

13. For the connection between technology and "restrictedness" in the sciences, see Rip, "Development of Restrictedness."

14. *Uno, nessuno, e centomila* [One, no one, and one hundred thousand] is the title of a novel by Pirandello that concerns observations. In Pirandello, *Opere*, vol. 2.

15. The decisive articles are collected in Coase, *The Firm, the Market and the Law*.

16. See Wildavsky, *Searching for Safety*.

17. Fuller, *Social Epistemology*, 81 [emphasis in the original].

18. See the article based on schizophrenia research, Miermont, "Les conditions formelles."

19. Transcendental philosophy and dialectic theory of the objective spirit or matter, Kant as well as Hegel and Marx, had all placed their hopes in precisely this point, which no one today who understands theory relationships would share. The excessive, unsurpassable awareness of theory architecture that one finds in Kant or Hegel demonstrates that at least during the watershed period around 1800, it was no longer possible to naively argue ontologically. But no one was willing to give up the hope for a world referential metaphysics, either. The "transclassical" reconstructions of dialectic philosophy by Gotthard Günther adhere to a strict correspondence of ontology and logic and therefore require a many-valued logic for an adequate understanding of time and sociality. See Günther, *Beiträge zur Grundlegung*.

20. I would just like to note that this does not concern the logical hierarchy of types, which had introduced its own distinctions operatively (and not by observation); rather it concerns a heterarchy of second-order observation with an alternation of distinctions, each in turn its foundation.

21. See the chapter "Multiple Versions of the World" in Bateson, *Mind and Nature*.

22. Analyses of modern information theory discuss this infinity as a starting point for "creatively" functioning but temporally unstable restrictions. See Krippendorff, "Paradox and Information." On the topic of structural gain through distinguishability, see Platt, "Reflexivity, Recursion and Social Life." Another possibility is to distinguish in all functions systems identity-assigning coding and only temporarily binding programming of the proper assignation of code values.

23. Compare MacCannell and MacCannell, *Time of the Sign.* A better-known description of the erosion of all reference (or "representation") is Rorty, *Philosophy and the Mirror of Nature.*

24. See especially Quine's influential article "Two Dogmas of Empiricism." The French parallel lies in Saussure's linguistics, with its resolute exclusion of all external reference, and Derrida's radicalization.

25. Bazerman, *Shaping Written Knowledge*, 187ff. This investigation, coming from rhetoric and referring to referral, thereby seeing itself as text (291), opens the door to parallel sociological research.

26. Ibid.

27. Ashby, "Principles of the Self-Organizing System."

28. Kauffman, "Self-Reference and Recursive Forms."

29. Specifically on this development, see Hacking, *Why Does Language Matter to Philosophy?* Connected to this are attempts to weaken the one-sidedness of either rationalistic or consensualistic criteria of truth. See Putnam, *Wahrheit und Geschichte*, and Habermas, *Theorie des kommunikativen Handelns.*

30. See Falk, *Ein Gelehrter wie Windscheid.* For the controversies of our century, see the polemics of Picker, "Richterrecht oder Rechtsdogmatik."

31. One of the main defenders of interest-oriented jurisprudence, Roscoe Pound, often comes dangerously close to this tautology. In his main work, *Jurisprudence*, we read, for example: "A legal system attains the ends of the legal order (1) by recognizing certain interests, individual, public, and social; (2) by defining the limits within which those interests shall be recognized and given effect through legal precepts and applied by the judicial (and today the administrative) process according to an authoritative technique; and (3) by endeavoring to secure the interest so recognized within the defined limits" (3: 16). It is apparent that the legally determined criteria for recognition or nonrecognition cannot be determined by the interests themselves. Society does not produce interests that are already separated by these distinctions. The legal system must therefore do more than just register interests. But from where does this "more" come?

32. Luhmann, "Interesse und Interessenjurisprudenz."

33. Tendencies have existed since the nineteenth century to grant the conceptually formulated legal dogma the status of a legal source. MacCormick, *Legal Reasoning*, 61; van de Kerchove and Ost, *Le système juridique*, 128ff. It might be better to agree that only the legal system itself is to be considered in the factuality of its operating as a legal source.

34. This, however, primarily only with regard to the differences in the ransaction cost and without a sufficient clarification of the implied conepts (money, need, temporality, code-dependence, etc.).

5. Hutter, *Die Produktion von Recht*, 131. Here we read: "Transactions re. internally viewed, communications (payments); externally seen they re service transfers." What we have considered as the problem of reference s presented as a problem of the observer, who is able to oscillate between nternal and external perspectives. This observer can also be the economic vstem itself.

6. Luhmann, *Die Wirtschaft der Gesellschaft*.

7. Giddens, *Consequences of Modernity*, esp. 149–50, contrasts the conept of the postmodern with a concept of the radicalized modern, opting or the latter.

8. This unraveling dissolves a basic but paradoxical unity. Whenever ve are concerned with social systems, that is, communication, every operation is simultaneously *observation* (with regard to the distinction between nformation, news, and comprehension) and *operation* as the observed completion of the observation. Similar conceptual relationships can be found in the assessment of form by Spencer-Brown, *Laws of Form*, specifically in the relationship he identifies between *distinction* and *indication*. His assessment shows that and how this initially unnoticed paradox can be apprehended with a sufficiently complicated assessment and subsumed with the figure of the reentry of the form into the form. For the application of this idea in a therapeutic context, where a reconstruction of paradoxes has long been of interest, see Fritz B. Simon, *Unterschiede, die Unterschiede machen*. Also see Miermont, "Les conditions formelles."

9. Derrida, *De l'esprit*. Compare, too, the somewhat simplistic way in which Marxists recently expressed their amazement that "bourgeois" theories fail to admit that they opt for capitalism.

10. Bateson, *Mind and Nature*, 122.

11. Von Foerster, *Sicht und Einsicht*.

42. Luhmann, *Erkenntnis als Konstruktion*; Luhmann, *Die Wissenschaft der Gesellschaft*.

43. The marking in question here should be formulated in connec-

tion with the linguistic distinction between marked/unmarked. See Lyons, *Semantics*, 1: 305ff.

44. This is, obviously enough, an "autological," self-inclusive interest. The distinction between seeing and nonseeing is a distinction that excludes what cannot thereby be seen. (This in contrast to the quick hope for a redeeming liberation with the insight into nonseeing, in a psychological context with questions for a therapeutic effect.)

45. See von Foerster, *Sicht und Einsicht*, esp. 207ff., which provides examples from mathematics. For application to the science system, see Krohn and Küppers, *Die Selbstorganisation der Wissenschaft*, 46ff., 134ff.

46. See Chapter 3, below, "Contingency as Modern Society's Defining Attribute."

47. Cassirer, *Substanzbegriff und Funktionsbegriff.*

48. Compare Hoffmann, *Klein Zaches, genannt Zinnober.*

49. Novalis, Fragment 2167, in his *Fragmente*, vol. 2.

Chapter 2

1. One aspect of this need for (a restorative) authenticity is handled by MacCannell, "Staged Authenticity." But even artistic attempts at authenticity, spontaneity of expression, nonreflection of being-observed, happenings, performances, installations, etc., can be categorized here. Compare the examples of Frederick Bunsen in Luhmann, Bunsen, and Baecker, *Unbeobachtbare Welt*, 46ff.

2. I emphasize dissolution. The new formation of concepts of rationality in the seventeenth century, above all by Descartes, was already a reaction, namely a reconsolidation based on distinction. This is why I cannot agree that the distinction between the sixteenth and seventeenth centuries that Stephen Toulmin emphasizes in his *Cosmopolis* is critical. I do not dispute, of course, that the civil wars and the philosophical skepticism of the sixteenth century made the need for reconsolidation visible and, from the middle of the century, helped to institute it, even if this was at first not done with a new conceptualization of rationality. I call to mind the Tridentinum, the Jesuit school work, the French justice reform, the new semantics of nobility that came from Italy, the work on juridical conceptuality in the direction of elegance and simplification, and the doctrine of ratio status and the sovereignty of national centers of decision making.

3. This formulation is from Baker, *Wars of Truth.*

4. One of the most interesting structure-based suggestions, which

goes unheard and can hardly be found in most libraries, is that of Emeric Crucé in his *Le nouveau Cynée ou Discours d'Estat*: Humanity is more important than the explanation of the *mystère de la Religion*; one should believe in God but not in articles of faith—and one should occupy the nobility with economic matters rather than ambitions for recognition and war.

. Wolf, "Ontologie," 1189–1200.

). See Schwanitz, "Rhetorik, Roman und die inneren Grenzen der Kommunikation." Despite Sterne's parody of this recurrent conception of narration in *Tristram Shandy*, Jean Paul above all did not want to relinquish the option of that conception, to the disadvantage of the flow of the narrative and with the consequence, in a work such as "Die unsichtbare Loge" [The invisible lodge], of nonfinality.

'. Prigogine, "La lecture du complexe." For more detail on the critique of this classical cosmology without physicists, see Prigogine and Stengers, *Order out of Chaos*.

8. For an example of an option that is usually recommended as the better one, see Friedrich Schlegel, *Signatur des Zeitalters*.

9. These are topics in which Michel Maffesoli is interested. See his *L'ombre de Dionysos* and *La connaissance ordinaire*.

10. "Irrationality tends to be invoked to protect the too narrow definition of rationality," Douglas, *Risk Acceptability*, 3.

11. For a discussion of this demand in the context of an interdisciplinary semiotics; see MacCannell and MacCannell, *Time of the Sign*, 18.

12. "The reflexivity of modernity actually subverts reason, at any rate where reason is understood as the gaining of certain knowledge," Giddens, *Consequences of Modernity*, 39.

13. "Indeterminability necessarily means *the determinability of a proscribed style*," Husserl, *Ideen*, 1: 100 (emphasis in the original).

14. If immediacy wants to represent the relationship of being, then the philosophy of life can no longer depend on the distinction between life and death but must find other contrasting concepts, such as mechanics, system, or even rationality.

15. Josef Simon, *Philosophie des Zeichens*.

16. Fish, "Why No One's Afraid of Wolfgang Iser."

17. Hesse, *Revolutions and Reconstructions*.

18. Dworkin, "No Right Answer?"

19. Dworkin, *Law's Empire*, viii–ix.

20. This is the topic of Esposito, "L'operazione di osservazione."

21. Spencer-Brown, *Laws of Form*; von Foerster, *Observing Systems*; and Günther, *Beiträge zur Grundlegung*.

22. Compare Howard, *Paradoxes of Rationality*.

23. Serres, *Le Parasite*.

24. Luhmann, "Wie lassen sich latente Strukturen beobachten?"

25. Sen, "Rational Fools."

26. Valéry, *Mélange*, 329. Valéry is referring here to the "méchanceté de celui qui a raison."

27. The concept of epistemic blockages ("obstacles épistémologiques") comes from Bachelard, *La formation scientifique*, 13ff.

28. See *Revue internationale de systémique*, 4, no. 1 (1990).

29. An objection to this concept of rationality can be seen in that two different versions have developed, between which no bridge exists.

30. With regard to irreversibility as a break in the symmetry of past and future, see Prigogine's works *Vom Sein zum Werden* and "Order Out of Chaos."

31. Spencer-Brown, *Laws of Form*, 56–57, 69ff. The significance of this concept is not completely discernible in Spencer-Brown. Other uses are possible if one realizes that self-reference is defined by distinction just as the ability to distinguish is defined by self-reference. It can then be shown that the copying of form into form is the basis for the phenomenon of symmetry and the phenomenon of repetition, and therefore for every infinity, if the circular process is repeated often enough, so that the repetitions lose their distinction. See Kauffman, "Self-Reference and Recursive Forms."

32. See the objection to Saussure in Jakobson, "Zeichen und System der Sprache."

33. This can be avoided through technical formulation; however, that does not solve the problem but only hides it, if the sign is defined as the distinction between signifier and signified (*signe, signifiant, signifié*).

34. MacCannell and MacCannell, *Time of the Sign*; also Kristeva, *Semiotikè*, 19, 21ff., 278, whose goal is to go beyond the structure of signs by means of "sémanalyse" toward its operative practice (work), without thereby giving it up.

35. Undeniably, there are attempts at restitution that make the argument: this dissolution of categories makes clear the need for metaphysics. For the case of "signs" see Josef Simon, *Philosophie des Zeichens,* or, to return to transcendental philosophy, Schönrich, *Zeichenhandeln*.

36. This is where the befuddled theories of natural social drive, natural "sympathy," and a coordinated rule-compliance secured by "imagination" take over.

37. Spencer-Brown, *Laws of Form*, 1.

38. Goguen and Varela, "Systems and Distinctions"; Glanville and Varela, "Your Inside Is Out and Your Outside Is In."

39. Luhmann, *Social Systems*.

40. See Hoffmann's "Prinzessin Brambilla," in his *Klein Zaches, genannt Zinnober*. Also compare Menninghaus, *Unendliche Verdopplung*.

41. Miermont, "Les conditions formelles," esp. 303–4.

42. That this is the usual procedure of philosophical systems is shown by Rescher, *Strife of Systems*.

43. For the application to legal-historical topics, see Luhmann, "Third Question."

44. This does not exclude more abstract concepts of rationality that can be determined on the same basis, such as a concept of forms rationality that abstractly characterizes and localizes the reentry of the form into the form.

45. Husserl, *Die Krisis der europäischen Wissenschaften*. We must add that it is certainly possible to understand and appreciate the attraction of this thinking during the time of an expanding fascism right after the war.

46. Atlan, *A tort et à raison*.

47. On the question of the uniqueness of the European (Greek) tradition in this context of using language to explicate being, see Derrida, "Le supplément de copule," in his *Marges de la philosophie*, 209–46. Important for Derrida is the deconstruction of forms, whose markings show something to be missing. But this is then no longer something specifically European.

48. Hahn, "Zur Soziologie der Weisheit." I agree in many respects with these analyses and only add (for me, a decisive) distinction between observers of the first and second orders and a stronger historicization.

49. See, for example, in the European tradition, the purity precept in Plato's *Cratylus* 396 E–397 as a prerequisite for insight into the connection between things and names.

50. For the history of this form as a result of printing and the differentiation of knowledge, see Bazerman, *Shaping Written Knowledge*.

51. Maturana, *Erkennen*, 35ff.

52. Not coincidentally, knowledge theory appears mostly in the form of articles in periodicals. One of the great examples of this century is Quine, "Two Dogmas of Empiricism."

53. Baecker, *Information und Risiko in der Marktwirtschaft*.

54. Luhmann, "Gesellschaftliche Komplexität und öffentliche Meinung," in Luhmann, ed., *Soziologische Aufklärung*, 5: 170–82.

55. Luhmann, "Weltkunst," in Luhmann, Bunsen, and Baecker, *Unbeobachtbare Welt.*

56. Winograd and Flores, *Understanding Computers and Cognition*, esp. 77: "The rationalistic tradition . . . tends to grant problems some kind of objective existence, failing to take account of the blindness inherent in the way problems are formulated." Compare Klaus Peter Japp, "Das Risiko der Rationalität," 97ff. Japp similarly sees a risk in the preference for rational decision-making "in the built-in incompetence of not being able to consider nonrational effects of rational decisions" (51).

57. This is how I (I!) interpret (interpret!) Fish, "Why No One's Afraid of Wolfgang Iser."

58. MacCannell and MacCannell, *Time of the Sign*, 121, offer a closely related consideration: "The *postrational* perspective differs from the rational by being that position that cannot honor absolutely the fundamental claims Reason makes as to the necessity of its divisions; it knows them to be arbitrary."

59. As a reference point for this little-known concept, see Heider, "Ding und Medium"; and Luhmann, "Das Medium der Kunst."

60. Bohm, "Fragmentierung und Ganzheit." Also Wilber, *Das holographische Weltbild.*

61. MacCannell and MacCannell, in *Time of the Sign*, 149, see this similarly, with reservations (?) that can be found in the following quotation: "Assumptions of unity at the level of the individual or the community are based on a desire to return to a state of nature."

62. Spencer-Brown, *Laws of Form*, 1.

63. Luhmann and Fuchs, *Reden und Schweigen*, 46ff.

Chapter 3

1. See Boutroux, *De la contingence des lois de nature.*

2. See Josef Simon, *Philosophie des Zeichens*, although this work does not emphasize the concept of contingency.

3. Mensch, "History of Mainstream Legal Thought."

4. See the "General Statement" in Parsons and Shils, *Towards a General Theory of Action*, 14ff. Also see Olds, *Growth and Structure of Motives*, esp. 198ff. As to Parsons's concept of contingency, see also Luhmann, "Generalized Media and the Problem of Contingency." An almost identical problem was examined earlier by Nicole under the rubric of "self-love" (order in spite of self-love through self-love)—see his *Traité de la charité et de*

'amour propre, especially chap. 2 ("Comment l'amour propre a pû unir les hommes dans une mesme société"), in his *Essais de Morale*. Anyone can see :elf-love and hence the threat to order in others and must therefore, to pre-:erve nimself, discipline himself. But this is, of course, not what religion eauires as "charité." The basis of this order is not, in Nicole's explicit criticism of Hobbes (149), natural law, but rather sin.

. See the texts in Schmidt, ed., *Der Diskurs des Radikalen Konstruktivismus*.

). These definitions are attributed to Aristotle, whatever the authenicitv of the definitive texts may be. For the various meanings of *endechómenon*, see Brogan, "Aristotle's Logic of Statements About Contingency."

·. We are assuming, for simplicity's sake, that "necessity" and "impossi-)ilitv" are unambiguous terms, knowing full well that it is possible to nulifv this unambiguity within the *ductus* of the Kantian technique of questioning and to qualify necessity or impossibility, that is, *to make the modal heoretical concepts themselves contingent.*

}. For such an attempt, see Aristotle, *Peri hermeneias* 12 and 13. But the iegation of contingent and noncontingent then becomes ambiguous, be-:ause this can define not only "necessary" but also "impossible."

). See Günther, *Idee und Grundriß* and *Beiträge zur Grundlegung*.

0. See also the dissertation of Esposito, "L'operazione di osservazione," vnich is oriented toward George Spencer-Brown and Gotthard Günther.

1. Luhmann, *Die Wissenschaft der Gesellschaft*, chap. 2.

2. This terminology is from Spencer-Brown, *Laws of Form*.

13. On the distinction of these dimensions of meaning and the evolution of their differentiation, see Luhmann, *Social Systems*.

14. Critical is the formulation: who *is being* observed. This is not a new version of the well-known problem of subjectivism: that everything depends on the observer.

15. Luhmann, "Wie lassen sich latente Strukturen beobachten?"

16. Spencer-Brown, *Laws of Form*; Kauffman, "Self-Reference and Recursive Forms."

17. Von Foerster, "Objects: Tokens for (Eigen-)behaviors," in his *Observing Systems*, 274–85.

18. A considerable number of reconstructions of the thought process and modern analyses of the problem have been written. See Frede, *Aristoteles und die Seeschlacht*.

19. See, for example, Michalski, "Le problème de la volonté," 285ff.; Boehner, *The Tractatus of Ockham*; Baudry, ed., *La querelle des futurs contin-*

gents; and Thomas, "Matière, contingence et indéterminisme chez Saint Thomas." It is apparent that herein lies one of the roots of the thesis of the unrecognizability of God's disposition of the future, which Max Weber thought so important for the rise of the motive scheme in capitalistic modernity. We will return to this thought.

20. See Aristotle, *Peri hermeneias* 16a 3ff.

21. Thomas Aquinas, *Summa Theologiae* I, q. 14, a. 13. This cannot, of course, exclude the possibility that God is a *necessary* result of the *contingent*. This can also mean that the meaning of the contingent can only be deduced through the observation of God.

22. "And you see yourself as you may be, so I am what you see in me" ("Et cum videre tuum sit esse tuum, ideo ego sum, quia tu me respicis"), von Kues, *De visione Dei*, IV, 104.

23. "Videndo me das te a me videri, qui es Deus absconditus," von Kues, *De visione Dei*, V, 108.

24. Von Kues, *De visione Dei*, XII, 142.

25. Duns Scotus, *Ordinatio*, I, dist. 39, q. 1–5, "Ad argumenta pro tertia opinione," p. 444. Scotus's ensuing explications concern the reference to the "causa prima" with the argument that contingency is not, like a deformation, to be traced back to a "causa secunda." Contingency must therefore be seen as a direct correlation to the knowledge of God.

26. "Oportet in Deo esse volutatem, cum sit in eo intellectus. Et sicut suum intelligere est suum esse, ita suum velle," Thomas Aquinas, *Summa Theologiae*, I, q. 19, a. 1. One could then naturally ask why this distinction is maintained.

27. Plato, *Sophist* 254 A–B, touches on this theme of observations of the second order when he says that philosophers are hard to observe because their place of observation requires the brightest illumination (*dià tó lampròn aû tês chóras oudamôs eupetès ophthênai*).

28. Less was decided by Mark Twain's archangels, who, shaking their heads, gave up—He must know what He's doing, it's not our concern. See Twain, *Letters from the Earth*.

29. And vice versa, all distinction is always bound to self-reference—at least in today's view. "Self-reference and the idea of distinction are inseparable (hence conceptually identical)," Kauffman, "Self-Reference and Recursive Forms," 53.

30. Von Kues, *De visione Dei*, IV, 106.

31. "Et hoc scio solum, quia scio me nescire," von Kues, *De visione Dei*, XIII, 146. I cite the Latin version in order to avoid mistranslations. In the

German translation, on the opposing page, we read, for example: "I know alone, *that* I know, that I do not know" (my emphasis). But the tension and the parallel to modern constructivism lies in the *because* (*quia*).

32. "Nihil enim est adeo contingens, quin in se aliquid necessarium habet," Thomas Aquinas, *Summa Theologiae*, I, q. 86, a. 3.

33. Von Kues, *De visione Dei*, IV, 104.

34. A way out of this problem is presented in Anselm of Canterbury, *De casu diaboli*, 233–72, with an elegant circle: Evil is not given, because it cannot be assumed; and this is so because the angel that becomes the devil tries to observe in order to be like God and not only, as theologians prescribe, in order to obey God. But only a society of nobility can so sharply condemn and sanction such an attempt at similarity. We could as well ask: why not?

35. See Nelson, *Der Ursprung der Moderne*.

36. The claim that natural and civil rights were "born out of the customs of nations, which conform one to another in a fashion that is common to all mankind, without any reflection and without [the nations'] following each other's example" ("senza alcuna riflessione e senza prender esempio l'una dall'altra [i.e., *delle nazioni*]") can be found in Vico, *La scienza nouva*, p. 225 [translation here by Gloria Lauri Lucente—Ed.]. But this is already itself a historically interested observation of the second order of an observation of the first order.

37. For the discussion within evolutionary theory, see Engels, *Erkenntnis als Anpassung?*, 187ff. Normally one assumes that the newly acquired attributes that develop in a specific context (here, theologically reflected religion) change functionally in ways that prove useful in other contexts.

38. Here we use the "pattern variables" from Parsons, "Pattern Variables Revisited."

39. On the same topic but independent of Weber in its concept is Nelson, *Idea of Usury*. Since Nelson's study, strong continuity theses have appeared—especially for ethical questions—which are based less on religion than on an ethical-political, civil-humanistic tradition. See Pocock, *Machiavellian Moment*, and Hot and Ignatieff, *Wealth and Virtue*.

40. See Mills, "Situated Actions and Vocabularies of Motive," and above all work that has remained foreign to sociology, Burke, *Grammar of Motives* and *A Rhetoric of Motives*.

41. Weber's work is much richer than allowed by theory developed from work on definitions. Theory underestimates problems of complexity, and Weber may have suspected as much, as can be deduced from the many salvatory clauses in certain texts as well as his ideal-typical method.

42. On this question, see Coleman, "Microfoundations and Macrosocial Behavior." Weber himself covers up this problem with the reference to conventions of explication that remain "typical." But this only leads to another formulation of the question for the social-structural conditions and the social effects of such typicalizations.

43. From the many areas in which this can be demonstrated, may it suffice to mention only the shift from medieval theater in open spaces to the stage productions of the sixteenth century, or more remotely, the discrepancy between purpose and motive in novels (e.g., *Don Quixote*). The distinction between true and false virtues and the prohibition against motivationally seeking virtuous action's automatic success belong in this context. Virtue, as far as it is observed, should prove itself as naive, natural, spontaneous, authentic, and sincere; that is, it should remain on the level of first-order observations. But this insight is formulated only because it is subjected to the observations of the second order.

44. Knorr-Cetina, *Die Fabrikation von Erkenntnis*; Rudolf Stichweh, "Die Autopoiesis der Wissenschaft"; Bazerman, *Shaping Written Knowledge*.

45. A remarkable exception is music. It uses tones that exist only in music and nowhere else. This seems to concentrate the given external reference on the experience of time.

46. Luhmann, "Gesellschaftliche Komplexität und Öffentliche Meinung," in Luhmann, ed., *Soziologische Aufklärung*, 5:170–82.

47. See Baecker, *Information und Risiko in der Marktwirtschaft*.

48. See Luhmann, "Sozialsystem Familie," in Luhmann, ed., *Soziologische Aufklärung*, 5: 196–217. In the same volume, also see Luhmann's contribution "Glück und Unglück der Kommunikation in Familien: Zur Genese von Patholgien."

49. That this psychic observation of observations can be ruined by communication, which is then instead observed, is a well-known everyday experience, but also a literary theme already discussed around 1800. See, for example, Jean Paul's "Siebenkäs" (for married couples) or "Flegeljahre" (for twins).

50. See Ariès, *L'enfant et la vie familiale*, and Snyders, *La pédagogie en France*.

51. Lichtblau, "Soziologie und Zeitdiagnose."

Chapter 4

1. For example, Aristotle, *De interpretatione* 9.

2. Lovejoy, *Great Chain of Being*.

3. See Hegel, *Philosophie des Rechts*, 193ff.

4. Necker, *De l'importance des opinions religieuses*, 80–81: "Il ne suffit plus d'être juste, quand les lois de propriété réduisent à un étroit nécessaire le plus grand nombre des hommes" ["It is no longer enough to be just, when property laws reduce the majority of men to bare necessity"].

5. I refer here to Friedrich Schlegel's treatise *Signatur des Zeitalters*.

6. Fragment 417, in Novalis, *Fragmente*, 1: 129.

7. Larmore, "Logik und Zeit bei Aristoteles." See also the sentence at 18b 31–32, where Aristotle refers to the fact that, with pure necessity, neither deliberation (*bouleúesthai*) nor action (*pragmateústhai*) made any sense.

8. Also see Josef Simon, *Philosophie des Zeichens*, where Simon also excludes any breakthrough to the outside and only recognizes the alternative of understanding signs directly (that is, without taking into account the difference between sign and signified) or of interpreting through other signs. We can decide this difference at present only without determining anything definitely for the future.

9. Friedrich, "Authority, Reason, and Discretion," in his *Authority*.

10. Hahn, "Verständigung als Strategie." Also see Joseph Simon, *Philosophie des Zeichens*, 177–78.

11. Luhmann, *Risk*.

12. In Jean Paul, *Werke*, 2: 322.

13. Esposito, "Rischio e osservazione."

Chapter 5

1. In our tradition we think of the warning example of Oedipus. But his figure also seems to have been widespread as a symbol for the risk of prophecy. For China, see Gernet, "Petits écarts et grands écarts," 52–69, 74ff.

2. Pindar. *Olympic Ode*, XII, verses 1 and 6–10.

3. A rare exception is Clausen and Dombrowsky, "Warnpraxis und Warnlogik."

4. Beck, *Gegengifte*.

5. Burke, *Permanence and Change*.

6. Luhmann. *Ökologische Kommunikation*.

7. This set of definitions can be found in Spencer-Brown, *Laws of Form*. in definitions such as those for distinction, indication, mark, unmarked space. They are also present in texts on linguistic semantics under "markedness."

8. It is important to note that there can also be a somewhat puzzling operation of reentry (Spencer-Brown) or self-indication (Varela) that seems to be paradoxical and in any case cannot be dealt with using normal mathematical calculations and also not with a two-valued logic. It would then have the strange result that the observer himself appears in the form of observing: as a mark. We will return to this below in section IX, point 8.

9. Koselleck, *Einleitung, Geschichtliche Grundbegriffe*, 1: xiii–xxvii, esp. xvii–xviii.

10. One of many examples is Rasmussen, Duncan, and Leplat, *New Technology and Human Error.*

11. That such catastrophes will be a fairly normal occurrence is in the meantime a fairly certain thought, if not a very soothing one. See the unavoidable Perrow, *Normal Accidents*, as well as a great wake of commentary. The interesting part of this analysis is that it shows that the asymmetry of *difficult production* and *easy destruction* is linked to the structure of technology itself, namely to the difference between strict coupling and loose coupling (necessary for ecological stability). This distinction shows (and hides) at the same time the distinction that is of interest to us: that between knowledge and ignorance.

12. Clausen and Dombrowsky, "Warnpraxis und Warnlogik."

13. Günther, "Cybernetic Ontology and Transjunctional Operations," in his *Beiträge zur Grundlegung*, 1: 249–328.

4. So laments John Donne in *An Anatomy of the World*, 270–83, citation from 276. The oft-cited verses (213–14) are these: " 'Tis all in pieces, all coherence gone; All just supply, and all relation."

15. On these changes concerning time, see Luhmann, "Temporalisierung von Komplexität."

16. Giddens, *Consequences of Modernity*, 17ff.

17. He does so without drawing the conclusion that there is therefore only one system in the world, which can send Australians the news of the evening events of the Moscow putsch (I am referring to the one in August, not December, 1991) via the BBC's *Breakfast News* and still create the impression in Moscow that the world is watching as events unfold.

18. See Hegel, *Physikvorlesung*, IV.10 and the *Encyclopädie der philosophischen Wissenschaften*, §258.

19. Derrida, "Ousia et grammè," in his *Marges de la philosophie*, 31–78.

20. Here we are also abandoning the idea of a transcendental (world-) subject that still had the possibility of observing itself in the facts of its own consciousness.

21. Giddens, *Consequences of Modernity*, 20ff.

22. Drawing boundaries is still seen as valuable, even if pseudoscience cannot be fundamentally dismissed (and how could it, given science's openness to the future). See Gordon, "How Socially Distinctive Is Cognitive Deviance in an Emergent Science?"; Collins and Pinch, *Frames of Meaning*; and Twenhöfel, "Thesigraphie."

23. Kant, *Critique of Pure Reason* B 215–16 (Kant's text concerns here, somewhat peripherally, space as a medium for postulating various hypotheses to explain various compressions).

24. For example, the early efforts in the sixteenth and seventeenth centuries toward the independence of artistic representation were opposed by the stark "Galilean" rationalism of the new mathematical-empirical science. See Schröder, *Logos und List*.

25. And if we could speak of decision making in science, then we would do so in the context of legal conditional programs that dictate that certain facts, which may be determined with the aid of scientific knowledge, lead to corresponding conclusions. But facts! Not truths! This could not be combined with the legal proscription of the refusal of justice. See Smith and Wynne, *Expert Evidence*.

26. March and Simon, *Organizations*, 164ff.

27. Friedrich, "Authority, Reason, and Discretion," in his *Authority*.

28. This is due to the fact, as expressed in the terminology introduced in section II above, that external reference cannot actualize the unmarked space of the external world but must designate something as something. It can then be observed and criticized within the system.

29. See Hahn, "Zur Soziologie der Weisheit."

30. This comment aims at the world of the salon and the academy of the late seventeenth and eighteenth centuries, whereas Pascal still meant, writing in 1660 and proceeding from consciousness, that the nobility would have to assert its position in communication but could not believe in the same. (See Pascal, *Trois discours sur la condition des grands*, 386–92.) But this already shows how little sociostructural change was necessary in order to overturn Pascal's view.

31. The same is true, mutatis mutandis, of the *communication of nonliability*. In organizations there would have to be a position that dealt with competence competency (Odo Marquard would say: incompetence compensation competence). But this position is, as experience has shown, not easy to find, not easy to address, not easy to activate. We can assume a parallel between social legitimization of the communication of ignorance and

organizational legitimization of the communication of nonliability. We will not pursue this parallel, as interesting as it might be to think about an organizational ethic of the assumption of nonliability.

32. Luhmann, "Ethik als Reflexionstheorie der Moral."

33. As star witness for the dramatization of this difference and its impending end, I offer Baltasar Gracián, especially in his pan-European reception. With Gracián we find the entire truth/untruth problem translated into a theory of rational action unique for its time, a theory that reflects communication problems, thereby shattering the old context of both ethics and rhetoric. It was this that proved fascinating to his contemporaries.

34. See Bauman, "Sociological Theory of Postmodernity."

35. Jonas, *Das Prinzip Verantwortung.*

36. Luhmann, *Soziologie des Risikos*, esp. 168ff. There are, however, formal criteria, such as: not everything is allowed that can be done. But such information suffers from the weakness of all ethics of justification: directions for action cannot be derived from this. We only hear that this depends on the situation. But this can be known without ethics, without knowing how the decision will fall or who can (or is allowed to) prevail in any given situation.

37. Rescher, *Risk*, 161 (emphasis in the original).

38. As in the style of Touraine, *Le retour de l'acteur.* See also the more moderate work by Livingston, "Le retour au sujet."

39. For its original religious context see Nicole, *Essais de Morale*, 1: 33ff.: ignorance, protected by the unknowing of ignorance, is a protection from humiliating self-recognition and is therefore (since it is person-functional) religiously dysfunctional—to put it into contemporary terms.

40. Merton, "Unanticipated Consequences of Purposive Social Action."

41. Sociologists have seen this again and again and have so stated, even if they have been unable to influence the theory preferences of the field. See Moore and Tumin, "Some Social Functions of Ignorance"; Moore, "Utility of Utopias"; Schneider, "Role of the Category of Ignorance"; and Popitz, *Über die Präventivwirkung des Nichtwissens.* For new analyses of a discrepancy between the search for more knowledge (rationalization) and action motivation, see Brunsson, *Irrational Organization.*

42. Socrates in a dialogue in Valéry, "Eupalinos ou l'architecte," 126: "L'homme ne peut agir que parce qu'il peut ignorer, et se contenter d'une partie de cette connaissance qui est sa bizarrerie particulière."

43. Just one example: in the fashion field of the past few years (and

only since then), the large firms that have capital and that produce for a mass clientele have copied the ideas of smaller, innovative designers so quickly that they appear on the market before the originator can get them there, and the clientele of exclusivity no longer has the opportunity to purchase designs that are not already offered in department stores. Accordingly, the interest in exclusive and recognizably costly clothing has receded among the younger generation. The result is a complete restructuring of the market and the collapse of a "culture" that was once possible. Another aspect of the topic is the consequences of acceleration, especially where novelty and innovation are decisive.

44. See Katz and Kahn, *Social Psychology of Organizations*, 16, in regard to better prospects for systems theory (at that time known as input/output analysis). The functional analysis prevalent at the time had as its precept the "refusal to take purposes at their face value," in the words of Davis, "Myth of Functional Analysis," 765.

45. For discussion based on semiotic analyses, see Josef Simon, *Philosophie des Zeichens*, 177ff.

46. For the sources, see Carcaterra, *Dolus bonus / dolus malus*, D.4.3. Also see D.4.3.1.2–3 for the separation of juridical and everyday language.

47. A first and impressive overview can be found in A. W. Schlegel, *Vorlesungen über schöne Literatur und Kunst*. Also frequently cited is Baudelaire, *Le peintre de la vie moderne*, where art already leaves half (but only half) of its task to fashion. Up to now, works of art as well as theories of art have given the most important impulses to an understanding of modernity, without having to base this on "knowledge."

48. Holmes, "Poesie der Indifferenz."

49. Along with Keynes, see Dupuy, "Zur Selbst-Dekonstruktion von Konventionen," 98–99.

50. This was already apparent in the seventeenth century. As La Bruyère notes in *Les caractères ou les moeurs de ce siècle*, 392, "Un homme à la mode dure peu, car les modes passent; s'il est par hazard homme de mérite, il n'est pas anéanti, et il subsiste encore par quelques endroits; également estimable, il est seulement moins estimé" ["A fashionable man does not long endure, for fashions change; if he happens to be a man of merit, he is not obliterated, and he lives on here and there; as estimable as ever, he is merely less esteemed"].

51. This, too, is an old topos: "Il y auroit de l'affectation à ne pas faire ce que tout le monde fait; ce seroit un air de singularité pour se faire remarqué" ["There would be some affectation in not doing what everyone

does; this would be an appearance of singularity aimed at getting oneself noticed"], Morvan, *Réflexions sur le ridicule et les moyens de l'éviter*, 125.

52. The usual discussion of the concept of "understanding" does not distinguish so clearly between psychic and social systems and therefore strains the concept of understanding with the task of persuasion. The problem resonates in the *Beiträge zu einer Tagung des Gottlieb Duttweiler Instituts, Rüschlikon*, published under the title *Das Problem der Verständigung: Ökologische Kommunikation und Risikodiskurs: Neue Strategien der Unternehmenskultur.*

53. On this purely empirical concept of morality, see Luhmann, "Soziologie der Moral." This concept of morality does not exclude, but rather includes, that all communication, even all action, can be observed within a moral schema. If the moral code is used as a distinction, then moralizing or not moralizing from the perspective of a second-order observer can be morally good or bad depending on where, according to the moralist, it should be applied. An ethics would then do justice to the given demands of distinction only if it had criteria available to it according to which one could decide whether or not to apply the moral code. Luhmann, *Paradigm Lost*, 40ff.

54. This signal also implies a moral verdict on democracy, which uses nuclear energy worldwide. One might allow that the author does not really mean what he says; but lack of care and exaggeration in terminology are also not exactly indicators of a willingness to understand. Dreitzel, "Einleitung," 9, 11. In the subtitle of the volume containing Dreitzel's essay, *Reflexionen über den Umgang mit katastrophalen Entwicklungen* [Reflections on handling catastrophic developments], we should also note a shift in meaning: from developments that can lead to catastrophes to catastrophic developments. Via this shift one can rhetorically overcome the distinction between ignorance and knowing.

55. For a use of Parsonesque concepts, see Gerstein, "Cultural Action and Heroin Addiction."

56. "Frames" in the sense developed by Goffman, *Frame Analysis*.

57. It would seem, although this can only be surmised, that neo-Nazism has been received as the last possible culture shock. This does not prevent politics from supplying political motives to such a movement.

58. Beck, *Risikogesellschaft*.

59. Berking, "Die neuen Protestbewegungen als zivilisatorische Instanz im Modernisierungsprozeß," 53.

60. We refer again to March and Simon, *Organizations*, 164ff.

61. Ibid., 192–93. Also Herbert Simon, "Birth of an Organization."

62. An already insecure profession touts its "knowledge," albeit renouncing any theoretical integration. For a representative contemporary overview, see Oelkers and Tenorth, *Pedagogisches Wissen.*

63. That this solution is sensible and already provides us with the most complicated technical, economic, and organizational problems is not to be denied. That endeavors at this level can be successful is shown by regional comparisons. But this does not answer our question of the organized employment of the vagueness of ecological relationships.

64. For fairly wide-reaching limitations, see Cyert and March, *Behavioral Theory of the Firm.*

65. March and Olsen, *Ambiguity and Choice in Organizations.*

66. "Observing systems" in the sense of von Foerster, *Observing Systems.*

67. Von Foerster, "Principles of Self-Organization in a Socio-Managerial Context."

68. Ashby, *Design for a Brain,* 98–99; Ashby, *Introduction to Cybernetics,* 82ff.

69. Herbert Simon, "Organization of Complex Systems," 15ff.

70. Weick, *Der Prozeß des Organisierens.*

71. Aside from Perrow, *Normal Accidents,* see Halfmann and Japp, *Riskante Entscheidungen und Katastrophenpotentiale.*

72. Luhmann, "Organisation."

73. For a similar discussion that is more applicable to legal decisions, see Ladeur, "Die Akzeptanz von Ungewissheit"; Ladeur, "Jenseits von Regulierung und Ökonomisierung der Umwelt; and Japp, "Preventing Planning."

74. The evaluation has involved an unusual expansion of the concept of cognition. See Maturana, *Erkennen;* Maturana and Varela, *Tree of Knowledge.*

75. For this formulation and for Greek origins, see Meier, *Die Entstehung des Politischen bei den Griechen,* 435ff.

76. As psychologists have named it. See Langer, "Illusion of Control." The jump to relevant variables of the illusion of control should not be too difficult in organizational research: familiarity, involvement, competition, choice.

77. To illustrate this, we will present only a few, mostly heterogeneous literary references.

78. Varela, *Principles of Biological Autonomy.*

79. Luhmann, "Gleichzeitigkeit und Synchronisation," in Luhmann, ed., *Soziologische Aufklärung*, 5:95–130.

80. For such a reflexive and in this sense critical second semiotics, see MacCannell and MacCannell, *Time of the Sign*. Julia Kristeva also came close to this view when she characterized the use of signs not by reference but as work, that is, as production. See Kristeva, *Semiotikè*.

81. Glanville, "Distinguished and Exact Lies" ("lies" in the double meaning of falsehoods and positions). It is useful to cite here: "When the final distinction is drawn (i.e. the ultimate) there has already been drawn another, in either intension or extension, namely the distinction that the final distinction is NOT the final distinction since it requires in both cases (identical in form) that there is another distinction drawn; i.e. there is a formal identity that adds up to re-entry" (657). We will return to "re-entry." See also Glanville and Varela, "Your Inside Is Out and Your Outside Is In."

82. Spencer-Brown, *Laws of Form*.

83. Kauffman, "Self-Reference and Recursive Forms."

84. Above all, see the posthumous publication by Merleau-Ponty, *Le visible et l'invisible*.

85. It also becomes evident if we question an immunologist. See Vaz and Varela, "Self and Non-Sense"; and Varela and Anspach, "The Body Thinks."

86. Derrida, *Marges de la philosophie*, esp. 31ff. and 185ff.

87. Ibid., 1ff.

88. Von Foerster, *Observing Systems*.

89. Spencer-Brown, *Laws of Form*, 76.

90. Serres, *Le Parasite*.

91. Plato, *Sophist* 253 D.

92. Hofstadter, *Gödel, Escher, Bach*. For the breadth of current interest, see also Lawson, *Reflexivity*; and Gumbrecht and Pfeiffer, *Paradoxien*.

93. Blumenberg, *Paradigmen zu einer Metaphorologie*. See also Rescher, *Strife of Systems*.

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